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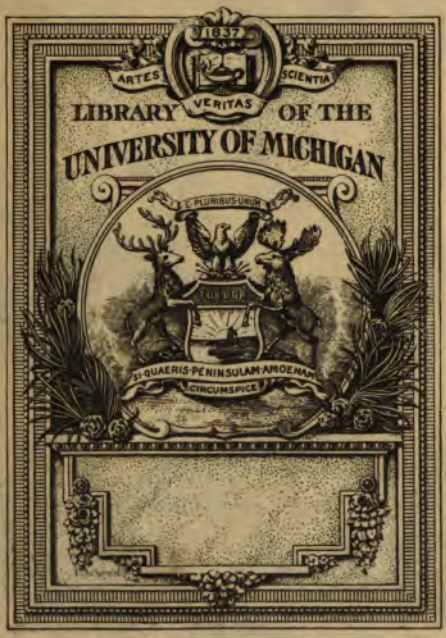
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MONO-METALISM AND BI-METALISM;

OR, THE

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SCIENCE OF MONETARY VALUES.

BY

J. B. HOWE.

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PREFACE.

THE following essay upon Mono-Metalism and Bi-Metalism is based upon the theory that no money, not even gold or silver, has, or by any possibility can have, so far as it is money, any commodity or mercantile value whatever. Gold and silver, money aside, are commodities beyond doubt or question, and if they were not money, their value would be exclusively of a commodity or mercantile kind. If gold were the only metallic money, silver being by supposition entirely out of use for that purpose, gold would cease entirely to be a commodity, its commodity value being entirely merged in its money value; but silver being metallic money also, it is impossible for gold and silver to be mutually money to each other, nor can either be, exclusively, money to the other. Hence, inasmuch as neither can be exclusively money to the other, and inasmuch as they are exchanged for each other daily in the bullion markets of the world, that exchange must be a barter of silver for gold, and gold for silver: neither can be bought with the other unless both are at the same time bought, and neither can be sold for the other, unless both are at the same time sold: it is purely a barter exchange. It differs nevertheless from ordinary barter, in the fact that it is regulated strictly by the exact mathematical law of weights of respective masses only, without regard to intrinsic qualities of the masses bartered, as in ordinary barter. If intrinsic qualities exclusive of weight, which consumers look to as much as they do to weight, were taken into consideration at all in bullion exchange, gold and silver would never cease to be com-

modities after leaving that exchange, just as most writers upon money declare, and all or most money holders believe them to be, but they never could be money, because they cannot be both at the same time. In the shape of gold and silver plate, watch-cases, jewelry, etc., they are also commodities, but in a sense differing from that of the bullion exchange, because they are subject to the action of supply and demand, demand being made by consumers, and supply being furnished by producers of the commodities, who obtain gold and silver metallic material to work up, out of the bullion of money which, either actually or convertibly, is paid them as sellers of those commodities. Labor expended or paid by the latter gives those commodities an indefinite value, not determined by weight only, as in the bullion market, but by labor, weight, and relative demand. These elements bring the commodities, gold and silver in bullion exchange, from the ratio of, say, 40 to 1 of weight in which they are produced, up to 15½ to 1, because there is a greater demand for commodities like plate, etc., in the shape of silver, as the cheaper metal, than for those of gold. Gold and silver then are commodities in the bullion market, exchanged for each other by a ratio of weight which varies but little, as compared with exchanges of other commodities, and they are commodities in the shape of plate, etc., but here their mercantile or commodity character ends: as money, they are no more commodities than a bank note, because as money, they are not subject to the law of supply and demand. Political economy has been investigated historically by very able writers, and aside from money, it has been treated ably as a deductive science, very abstract conclusions being drawn from equally abstract premises. The only practical part of political economy which can be examined with a close approximation to exactness, lies in money and its relation to the production and distribution of commodities. This part I believe to be a failure, for want of a correct theory of money. My theory affirms that all money has abstract or general value only, without reference to

demand and supply, while commodities have special value, growing entirely out of demand and supply made effectual through money: I have written and published two books, in which this theory is set forth, called "Political Economy in the Use of Money," and "Monetary and Industrial Fallacies: A Dialogue." I refer to them here, for the special purpose of showing how easy it is to be misunderstood, when writing upon the subject of money, even by very clear-headed men, who have both thought and written upon it with ability. One writer states, that it is nothing new to affirm that money is not a commodity. That is all very true, but if money is not, even in the form of gold and silver, a commodity, then it certainly has no value as a commodity, because it is not subject to the action of demand and supply. But money certainly has value of a high order, and if it is not of the commodity or mercantile order, of what order is it? That is the question, and a very important question: it is not a mere question of words. Another writer asserted, that my theory virtually denied all value to money, whereas the general agreement to use, and the actual use of metallic money, of itself conferred value, founded upon utility for that purpose. This is precisely the doctrine that I contend for, myself. The error of the last writer lies in the assumption that the latter form of value must necessarily be of a commodity or mercantile sort, and that there is no other kind of value. The error of the first writer lies, not in supposing that money must necessarily be a commodity, and therefore possessed of commodity or mercantile value, but in treating the difference between money and commodity, whatever it may be, as comparatively unimportant. The practically important fact is, that most writers upon money treat it as a commodity; bankers bank with it as a commodity; and governments adopt mono-metalism and bi-metalism, upon the theory of commodity and standard. From my standpoint, mono-metalism and bi-metalism cannot be intelligently examined without a true theory of money, and inasmuch as I believe my theory to

be sound, I have examined, in this essay, the law of values, especially as affected by the variation of bank reserve. If gold and silver are still commodities in banking reserve, rising and falling in value by the same causes and in the same manner with other commodities, mono-metalism and bi-metalism are mere matters of fancy or personal convenience. If one half or two per cent. of gold in banking reserve is sufficient to meet all actual calls, short of a panic, made upon banks, that quantity, with a little extra margin perhaps out of abundant precaution, is sufficient to supply the demand, and gold ought by all means to be used by Western nations to the exclusion of silver. But who demands gold out of banking reserve? Not consumers certainly, because gold is not wanted by consumers. But if not wanted by consumers, as everybody knows it is not, it is impossible for it to be a commodity. The real defect therefore must lie, not merely in a defective theory of value, but the (almost) total absence of any theory, or even attempt to establish a theory. I have therefore endeavored, first of all, to establish my theory of money, in the following essay, and having in my opinion established it, I then proceed to examine mono-metalism and bi-metalism in the light of that theory. Because gold and silver used as money, either in company through bi-metalism, or separated through mono-metalism, are not commodities, while in bullion exchange they are commodities, whose values there average $15\frac{1}{2}$ and 1, through demand for gold and silver plate, and other commodities made of gold and silver, those values will, in the absence of change of ratio by international consent, ultimately be restored, and the direct loss of the silver monetary unit in purchasing power for commodities at large will cause it to rise in bullion or commodity exchange, while the opposite will be true of gold, and the monetary exchanges will be reversed and turned upside down. The inconvenience and the loss to trade will thus more than counterbalance the mere convenience of using gold, through gold mono-metalism, instead of both gold and silver, through bi-metalism. Were gold really a com-

modity, governed by the law of commodity or mercantile value, when used as money, this would be impossible: gold would then be the best money for Western, and silver for Eastern nations, as is now generally asserted and believed. It is so easy to be misunderstood upon this very complex subject of money that some readers may hastily infer that I favor unlimited coinage of silver by the United States, whereas I favor a course directly opposite, until all European nations are ready to adopt bi-metalism. The United States ought in my opinion to coin silver for subsidiary uses only, until bi-metalism is generally adopted, and they ought to coin at $15\frac{1}{2}$ instead of 16, and recoin at $15\frac{1}{2}$ from time to time all they have coined at 16, making gold and subsidiary silver always interchangeable in suitable sums at the treasury. When the necessity of bi-metalism shall be generally admitted, it will be because the present prevailing idea or illusion of a commodity value in gold and silver as money is abandoned by scientists: coinage will then be conducted upon such a plan as will make all coins circulate readily throughout the world, and storage of bullion and coin in government treasuries will follow, either metal being delivered to depositors at their option without regard to the kind (whether gold or silver) deposited, up to the limit of ability on the part of governments to respond to the option, metal, either of the kind deposited or of the kind not deposited, being always under all circumstances deliverable to the extent of the deposit. This plan would probably be sufficient to compensate for all variations of ratio in bullion exchange, after the general adoption of bi-metalism.

One fact, about the existence of which, to a clear understanding logically directed, there can be no doubt, followed out to its conclusions, will furnish my reasons for sustaining bi-metalism. That fact is that no money, even gold or silver, has value through and by reason of itself, or in other words, upon its own merits. Its source of value therefore is conventional, or in other words, lies only in what it buys. Hence, its value must, in other words, be abstract, or in another word, general-

ized. Hence also prices in gold or silver really mean the rate of purchasing power of the abstract monetary unit of gold or silver, and not prices reckoned in gold or silver itself as a commodity, whether under mono-metalism or bi-metalism: prices therefore cannot in general depend upon the quantity of gold or silver in coins, but dividing all the gold and silver which is not carried into commodity use in the shape of plate, watch-cases, jewelry, foil, etc., into such portions by weight and coinage, that the actual number of coins of both metals shall continue to be the same in all countries, except as it expands through the action of buyers at large, and contracts through the action of buyers of plate, jewelry, etc. In point of principle this is easy enough, but practically it will, although made necessary through mono-metalism, be very difficult, if not impossible. The gold unit must therefore rise under mono-metalism, not because gold will rise or silver fall as a commodity, but because the total number of coins, whether gold or silver, will be diminished in number unduly in mono-gold countries, and increased in mono-silver countries. Recoinage of both gold and silver is thus made necessary through the extension of mono-metalism, putting less gold into gold coins, and more silver into silver coins, and so permanently changing the ratio of $15\frac{1}{2}$ and 1, by adding to $15\frac{1}{2}$. But this is not only impracticable, even if it were perfectly certain how much weight ought to be added to $15\frac{1}{2}$, and how much weight taken from 1, in view of commerce gained by gold and lost by silver, but it is impossible to ascertain the quantity so to be added, and the quantity so to be subtracted, in consequence of the sources of supply existing in the vast accumulation of gold and silver in the shape of plate, jewelry, watch-cases, etc., the tendency to take gold thence to the mints being thus increased, and to take silver thither from the mints increased. Mono-gold metalism, by raising the purchasing power of the gold unit, will carry more gold out of those commodities and less into them, and the opposite will be true of silver. Hence there will prob-

ably be no recoinage, but should there be, it will be practically impossible to determine the proper ratio, until all nations discover that in respect to the money of the commercial world, they must act together. There will therefore be a direct rise of prices reckoned in gold units, and a direct fall of prices reckoned in silver units, when, if the ratio could be and were changed correctly, and recoinage should take place, there would be no change of prices. With the same quantity of metal without recoinage, then, we must have high prices on the one hand in mono-silver, and low prices on the other hand in mono-gold countries, although the quantities of silver and gold continue the same, whether there be recoinage or not. Hence it is impossible for gold or silver as a metallic commodity to rise or fall in general purchasing power. Rise or fall in general purchasing power has no reference to the quantity of metal, but to the number of pieces by weight, into which gold and silver are coined, definite weights by ratio being given to each coin; and should silver ultimately be discarded, and occupy a place with copper, general recoinage of gold would be indispensable. It is equally impossible therefore for gold and silver even as money to rise or fall as a whole, to be cheap or dear: it is entirely a question of purchasing power in the abstract unit, limited or not limited in due proportion by weight of its mass; and due proportion means due total of such units.

MONO-METALISM AND BI-METALISM.

MEN of science who write upon monetary subjects have not yet learned what money is, and until they study and adopt the abstract unit or conventional theory, they never will.

What does all the discussion in favor of "mono-metalism" on the one hand, and "bi-metalism" on the other, amount to? Has a mono-metalist ever been converted by a bi-metalist, or a bi-metalist by a mono-metalist? All the arguments hitherto on the side of the mono-metalists are, that none but a single standard can be maintained successfully; that with free coinage of two metals, there is an attempt at maintaining a "double standard," which is impossible, because one metal will sometimes be the cheapest and sometimes the dearest; and hence the cheap metal will always drive out the dear one, and debtors will always elect to pay the former instead of the latter. Again it is said by bi-metalists, and mono-metalists who favor free coinage of silver, that a single standard of gold for the greater part of the commerce of Europe and the United States will make gold very dear and high, and prices must rise enormously, and some say that they have risen already. Some say that silver is too bulky and heavy for the commerce of civilized states, although France has used it heretofore, and still continues to use a large amount.

The central argument of those mono-metalists who favor a single gold standard is, that the two metals cannot be kept at par, or in other words, that whatever the ratio of weight between the coins of the two metals,

there will be variations on each side of the par, one metal being sometimes on one side and sometimes on the other. In a scientific view, this is the only argument of the mono-metalists. Have the bi-metalists answered it? I am not aware that they have, and I am certain that they cannot, until they have learned that there is really no such thing, in a monetary sense, as commodity, standard, cheap silver and dear gold, or the contrary. Among scientists the question therefore presents itself chiefly in the form of high-priced gold and high prices in gold and the contrary of silver, while among politicians it is substantially the same — cheap and abundant money with silver, and dear and scarce money with gold.

There is really but one question aside from the weight and bulk of silver as yet raised, and that is the question of "single standard" on the one hand and "double standard" on the other.

That question has an *apparent* importance under the prevailing theory or idea of what money is; under the unit or conventional theory of money which I maintain and claim to have demonstrated, it has none. The unit theory of money is precisely the opposite of that of M. J. B. Say and most or all of the political economists of to-day. Say affirms that the only idea presented to the mind by the word *franc* is that of the five *grammes* of silver it contains. Either this proposition or its direct opposite is true; both cannot be true at the same time. Which is true? I affirm Say's proposition to be false and its opposite true. M. Say, in Chapter XXI., Section IX., of Book I., entitled, Of Money as it Ought to Be, contends that governments ought to refrain from naming their coins altogether, stamping on them only the actual weight as a voucher or certificate of the quantity of precious metal in the coin, and his argument is demonstration itself, if it be true that quantity of metal has an absolute, or anything more than a mere relative importance. Absolute precision is requisite upon such a subject, and therefore to make my meaning clear I add, that although the exact converse or negative of M.

Say's proposition is true, yet the quantity of metal in a coin, although absolutely unimportant, is relatively important. It is absolutely unimportant, because the value of the unit of money, by whatever name known, aside from any circulation or use of it as money by any person but its owner or some one in his behalf, and aside therefore from all circulation or use of it by means of loans, depends upon the total average number of units in use as money. This total is made up of the various sums or reserves in possession of individuals, corporations, and governments. If by any means the total number of metallic units, through falling off in metallic production, becomes gradually less and less in respect to all other production and to all commerce, this is absolutely unimportant even without recoinage, because the unit gains in purchasing power or exchangeable value precisely as the whole number of units in each money reserve increases or decreases relatively to the exchanges which the owner of the reserve makes from time to time, in his double character of buyer and seller. Aside from loans, all changes of this character, so far as metallic money is freely circulated and not retired by other money, must be so slow that the change will affect all buyers and sellers and all creditors and debtors alike, except as to contracts of long date. The general result must be the same also where the units of metallic money slowly increase, in consequence of metallic production gaining relatively to commerce, or commerce losing relatively to metallic production. But, in either of these last two cases recoinages, with a little less metal at each recoinage in all coins, would, if practicable, keep the same relative number of units in each money reserve, and hence there would be no apparent rise or fall, even gradual, of prices. The gradual increase or decrease of metallic production, and therefore of units in reference to commerce, would thus be counteracted by gradually carrying into every old coin through recoinage, as well as into every new coin, a little more metal in the one case and a little less in the other than before. The only practical difficulty

would be in determining how much heavier in one and how much lighter in the other case, the coins ought to be made. This difficulty would be entirely met and overcome, if the states of the whole commercial world could and would act as one upon the question. Joint action would compensate for all errors, whether the changes agreed upon included both or only one of the precious metals, unless they were excessive, and excess would lead to counterfeiting and melting. Quantity of metal in the unit of money called a coin is therefore absolutely unimportant, and being absolutely unimportant in respect to the function of money, or in other words the use to which its owners or holders put it, the opposite of M. Say's proposition must be true and his proposition false. The true proposition then is: The only idea presented to the mind by a piece of money containing five grammes of silver is the word *franc*, or any other name by which the unit may be called. In other words, money values in the character of an intangible but localized unit, and when a seller obtains it in exchange for his commodities, it stands in his hands as a tangible unit, to make his exchanges as a buyer. But is not a coin of two ounces worth twice as much as a coin of one ounce of the same metal? Unquestionably it is. Why then is quantity absolutely unimportant? Because the smaller quantity without reference to the state of demand, and because in fact there is no such thing as demand for it in a mercantile sense, will become worth as much as the larger, and the larger worth no more than the smaller, under the conditions before mentioned.

Quantity therefore is absolutely unimportant, because although the mass changes, there is no change in the value either of the whole mass or of any particular portions of it. Each portion continues to have the same unvarying value under all circumstances, whether its weight increases or decreases, after the increase on the one hand, or decrease on the other, has been generally distributed. But two ounces of gold are always worth twice as much as one ounce, and why then, it may be

still asked, is weight absolutely unimportant? It is absolutely unimportant, because its valuing function can be performed just as well with units of one ounce each, as with units of two ounces each, and with units of four ounces each, as of two ounces. It is a question of proportion only. If values of two commodities stand on one side as 2 to 4, and on the other as 4 to 2, it is absolutely immaterial whether the figures in the ratios are multiplied by a slow relative increase of metallic production or divided by a slow decrease of metallic production, the weight of the metallic unit still continuing the same, or whether on the other hand, the weight of the unit be increased as production increases, or gradually diminished as production diminishes.

While quantity therefore is of no absolute, it is of relative importance by the exact mathematical measure of weight against weight. Given the mass, two ounces are worth, under a coinage when coin or unit and bullion values agree, twice as much as one ounce, because whatever the mass may be, units of weight are constituent parts of it. Quantity then having no absolute, but only a relative importance, metallic money must, like all other money, value in the character of an abstract unit, and hence quantity is important (relatively) only for the purpose of duly limiting and distributing the valuing units. Quantity in units of goods, divided by price in units of money, gives value of the unit of money in exchange, and price in units of money divided by units of goods, the value of the unit of goods. These two values form the basis of the equation of exchange between buyers and sellers, and the equation is completed by multiplying the unit of goods by the number of units of goods actually bought, and the unit of money by the number of units of money actually paid. M. Say had clear ideas, and he did well to put the whole subject of money and its coinage upon this ground. If he was right in his idea, then governments, if required to stamp and certify weight only, could never debase their coins; but he was in error. When he, like his predecessor Adam Smith, asserted that the real value of all money

lies in what it purchases or procures, he affirmed the truth of the unit theory which I maintain, but when he asserted that the quantity of metal in the unit, and not the unit properly limited and proportioned by the whole mass of metal, is what pays and passes as the equivalent of goods bought and sold, he denied it. Like the great astronomer Tycho Brahe, who admitted a part of the Copernican theory and denied the remainder, so did he and Adam Smith with the unit theory of money. M. Say has stated with great force the whole case from the contradictory double-theory view which asserts that the value of the coin lies only in what it buys, while at the same time asserting that its value lies in its quantity of metal. That in point of fact it values only in the character of an abstract unit, whether its mass of metal be greater or less, is therefore certain, unless the proposition that its value lies only in what it buys is false.

But an appeal to consciousness for the purpose of settling the metaphysical question raised by M. Say will help to determine the answer. Does a man in buying bread, chocolate, or wax candles, with a five gramme piece of silver, assuming it to have no other name, make, as M. Say affirms in his argument, any comparison between the grammes of silver and the respective quantities by weight of the bread, chocolate, or candles? Surely he does not. He and the seller both estimate the quantity of the commodity sold, in the national unit of money, whatever it may be, or its fractions, and it is impossible to estimate it in any other way by the use of money. The unit theory is also illustrated by the valuations of silver and gold in each other, and the principle which controls the barter equation of exchange between them. This principle is weights of respective masses without regard to intrinsic qualities of either mass. In commodities, quantities are not alone regarded, but the intrinsic qualities as well as quantities are estimated by buyers and sellers. Again, paper money, inconvertible as well as convertible, goes into equations of exchange between buyers and sellers, and values in the character of mere units, standing as a conventional equivalent in the hands

of buyers. Still again, after gold and silver have been deposited in banks of deposit, the title to them passes by book transfers, and even after the whole or a large portion of the metal has departed, transfers may continue to be made, and so long as they continue thus limited, the transfers perform very well the functions of money in the character of units; and because goods are bought and sold with them, they are units of money like the units of the Bank of Venice. Again, a limited and definite amount of government paper, maintained permanently at the same volume, and receivable for all government dues, although not convertible, might possibly command a premium, as might also credit units transferred in a bank or government office, if duly limited and receivable for all government dues, like the paper. Mere units of "credit," without any reserve at all, might be transferred by means of checks in our deposit banks if no metal or notes were wanted, and depositors and bankers were so agreed. The units would be money, quite as much as gold and silver. The mischief resulting would lie in the fact that there would be no limitation either of the volume or circulation of the units: they would not have a fixed and definite total, because loans would make them vary all the time, and they could never be brought to a steady volume until they had behind them a reserve of metallic units duly distributed between buyers and sellers (who are the owners of all deposits), and varying within short, instead of long periods.

This subject of reserves I shall examine further hereafter because it bears upon the mono-metalism of Germany in stopping the free coinage of silver; and by free coinage, I mean coining all the silver brought for or by all silver-bullion holders, who send or carry it to the mints, or buying on the part of government all the silver bullion offered, and coining on behalf of government. Both these plans amount to the same thing, and either of them is free coinage.

APPLICATION OF THE UNIT OR CONVENTIONAL THEORY OF MONEY TO THE QUESTION OF MONO-METALISM, BI-METALISM, AND SINGLE AND DOUBLE STANDARD.

I employ the terms found in this title, because they are in common use and no others are at hand to supply their place. What will be the final result of the action of Germany in abandoning mono-metalism in the shape of free coinage of silver, and adopting mono-metalism in the shape of free coinage of gold? The result has been, so far, to place in the bullion markets large quantities of German silver, and to induce the nations of the Latin Union, so called, to suspend the free coinage of silver, still retaining free coinage of gold. The action of these nations is therefore merely following, by way of self-protection, the example of Germany, with the exception, that instead of forcing their silver upon the bullion market and replacing it with gold as quickly as possible, they will either gradually retire it and replace it with gold, or, should Germany retrace her steps, or other nations intervene to an important extent, they will adapt their action to circumstances; and this is monetary wisdom. The proposition which I have demonstrated is, that the weight of the total mass of metal in coin, and consequently the weight of its constituent parts in the hands of holders, has no absolute importance in itself, but becomes relatively important only when the mass is ascertained or assumed: the weight of the constituent portions of the mass in every holder's hands must sooner or later harmonize with the whole mass, because the whole must be made up of its several parts and ought to bear a steady relation to them through commerce. We have then in metallic money as well as in commodities units or portions of mass, limited by the whole mass. Whatever the weight of the monetary unit adopted as standard, it has definite and exact proportion by weight to all other units made from the whole metallic mass, and valuation is by weight. The mass of either of the precious metals can

increase on the one hand or decrease on the other only very gradually and by small ratios, and if general commerce increases or decreases in like manner, as undoubtedly is the case, metallic money furnishes through its units the most perfect measure of value possible, if their proper limitation and distribution through commerce are not artificially interfered with. Their proper limitation and distribution may be interfered with, by increasing or decreasing the amount of commerce in which they are employed, without a corresponding readjustment by making the weight of the unit less in the first case and more in the second: their distribution may be interfered with by violent transfers through military power without any reference to commerce, as happened long since in ancient Rome, and of late in modern Germany. A derangement of prices and more or less of production and commerce follows such acts of violence. Had there been no banks in Germany, the money remitted from France must still have been employed immediately in additional production, or if not, spent unproductively; and in either case there must have been a rapid rise succeeded by a rapid fall of prices. This rapid rise and fall causes national and private losses and an artificial redistribution of productive capital to a considerable extent, thus exaggerating the natural inequalities of fortune; whereas on the contrary a slow rise or fall — and it must always be slow if there is any rise or fall with metallic units duly limited and distributed together — can do no harm.

Again, their distribution through commerce may be interfered with by loans, where they are consolidated, while still belonging to the depositors, in large reserves. The managers can loan a large amount and still supply all the calls of depositors, who not only buy and sell and lend as much as if they had not deposited, but some depositors loan a good deal more. Long experience has shown that the only limit to such loans is a banking and commercial crisis, and hence the only mode of limiting them, short of a crisis, is by the original deposit itself, at some point prior to a crisis. The loans which cause a

crisis are those which banks make to producers in excess of markets, and which depositors and others make out of dividends and profits, declared as actual gains realized through sales of what is thus produced in excess of markets, before it has found a market of consumers. A sale may be made to a merchant or stockholder in a railroad before the goods are wanted by consumers in the first case, or the railroad can earn an income in the second case. The profits in the shape of money paid by the merchant and stockholder may be employed by those who receive them in still further production, of a kind whose results have fewer chances of finding a market than the former; and this is a crisis. All this extra circulation or use of the units of valuation, purchase, and payment is equivalent, in raising prices, to an increase of the number of units in every money-holder's hands. It differs however very materially in its results, for a permanent increase in the circulation of metallic, paper, or any other units, which serve as measuring units of valuation and at the same time conventional equivalents of merchandise and commodities in the hands of holders, where no additional circulation follows, may result only in a permanent rise of prices, while a permanent decrease of the units will result only in a permanent fall of prices. But where any additional circulation is given to the units of money belonging to depositors over and above the circulation by way of loans and purchases, given it by depositors themselves whose deposits are constituent parts of the grand total of all units of money, this extra circulation can take place only by way of loans made by the managers of the grand total of deposits, and these loans must be employed either in supporting the borrowers while doing nothing (which is unproductive consumption) or in sometimes producing, and sometimes buying from producers, to an extent in addition to, and over and above, the producing and buying which could have taken place if there never had been any deposit made. In either case (whether there be productive or unproductive consumption) the borrowers and their laborers and employees

are enabled to buy and support themselves, to an extent largely in excess of what they could have done if there had been no deposit, because in that case there could have been no circulation given to the units of money except that given by the owners, and consequently the extra productive and unproductive consumption following the extra loans could never have occurred. But by far the larger portion of such loans are employed in productive consumption undoubtedly, and if so, although the borrowers and their laborers can support themselves and families and thus live out of the loans, yet they are producing all the time, and have merchandise to show as the result. But if they produce to such excess that they can sell only a part of the merchandise, they have not only been consuming what they bought with the borrowed money, while at the same time producing in excess of what could otherwise have occurred, but they have produced in excess of what can be sold to consumers. Their inability to sell and pay their debts, while still borrowing to produce more or to hold what they have produced, constitutes the first stage of a commercial crisis: production falls off and laborers are discharged, and because production falls off and to a considerable extent consumption, new loans cease to be made except to renew old ones, and thus the circulation of money and consequently prices fall off. To give money an extra circulation through loans, rendered possible by deposit, is therefore equivalent in its effects on prices, for a time, to a large increase in the total volume of money, but it is comparatively short-lived, because the resulting extra production is never stopped until stopped everywhere by a crisis, and then, because the extra production falls off, the extra circulation and resulting prices fall off also. If money were never circulated, there could be no such thing as price in the abstract or general: the amount of money, that is to say, the number of units of money put in circulation as compared with goods actually bought and sold for consumption, must at any time determine prices and make them either high or low. If money is

loaned out of a bank to buy cotton-wool or pig-iron and work it up, it is certain that an extra amount of money has been put in circulation, equal to the total value of the material to be worked up besides the labor to be paid for working it up. Now the actual volume of metallic money in a country in the shape of coin may stand permanently to the average total of commodities on hand as 1 to 4 or 5, but here money is put in extra circulation as compared with extra goods produced, not in the proportion of 1 to 4 but 1 to 1. An enormous expansion must result, unless the extra production is met by a corresponding extra consumption. It is undoubtedly counteracted to some extent by a large extra consumption by all classes, especially those who are producing the excess, but not by a *corresponding* extra consumption, for this is impossible. The result is, that the extra circulation, or as it may be called expansion of circulation, must continue, and not only continue but increase, as production in some quarters increases over consumption in all quarters, and until the extra production and its resulting extra circulation are arrested by a crisis in the production. But have the producers and their laborers and employees earned much if anything more than a living upon the average while thus engaged, it may be asked, and must they not, if engaged in some other occupation, have earned and therefore have put quite as much money in circulation in the latter as the former case? By no means, or at least not necessarily, and if they had put as much money in circulation, the sale and consumption of what they produced would have retired the money out of circulation and kept prices steady. The remedy, therefore, lies in stopping such loans universally at a designated point. If they could be regulated, they would, while adding greatly to the energy of production, increase to a considerable extent the capacity for consumption. That the power to make such loans exists at all, and when exercised may be carried to the point of a producer's, merchant's, and laborer's crisis, results necessarily from the unit or conventional theory of money.

That theory stated in the most general terms is, that money in circulation and in the hands of holders ready for circulation is a process or contrivance for the purpose of stating the relations of value between all commodities bought and sold, in numbers, while the money itself, after having been received by holders as a conventional equivalent of commodities sold, stands in their hands as such, until they buy and the sellers receive it as such from them. Valuation, being by numbers, must of course be by ratios, to find the purchasing power or value of the units of money as expressed in units of goods on the one hand, and price of the latter as expressed in the former on the other hand; and the equations of exchange between buyers and sellers are framed and deliveries made, accordingly. Hence, to use money is to make use of a process by which labor, commodities, and capital may be indirectly exchanged through the agency of buyers and sellers. To borrow money is to borrow the aid of this conventional process to buy labor, commodities, or capital, by borrowing that which, throughout the world or at the place of borrowing, is conventionally received in exchange for them.[1]

[1] Although the mercantile theory prevails to-day, and seems to be as firmly rooted as ever, it is not carried out in all particulars with the same consistency as formerly. If, said the old advocates of the theory, metallic money is a commodity, and therefore possessed of mercantile value, — especially if the value is measured by the labor the metal cost, — it is certainly wealth, and that too of a very enduring kind: whoever lends it lends a commodity; whoever owns it owns a commodity; being a commodity it is taxable like all other commodities; it must be wealth to its possessor, therefore, in a higher degree than can be affirmed of any other commodity, because it can be sold in all parts of the world, and its value changes but little: it is not only impossible, therefore, to get too much, but it is impossible to get enough of it; hence the balance of trade ought to be regarded with great care, because, and only because, it will bring into the country more gold and silver. This is very logical reasoning from the hypothesis that gold and silver, as money, are commodities: there is not a flaw in it. Adam Smith's practical sagacity, nevertheless, although he admitted the hypothesis, led him to point out the absurdity of the conclusion. Our economists of to-day who insist upon further economy of gold, variable reserves, and gold mono-metalism without recoinage, are thus less logical than the ancient supporters of the mercantile theory against whom Smith wrote, but they are more logical than Smith. They fail, however, in the practical sagacity which led him to his plan of bank reserve kept in due pro-

As the use of money is but the use of a process, the use may be extended, through deposit loans, to any extent which does not interfere with the use by those who own the units of valuation, which are at the same time conventional equivalents. All experience shows that this extra use may be and is, because not duly regulated everywhere in *all* banks, carried so far, that the only regulator is a periodical crisis in that production which results from the extra use, while the depositors, who are the owners of the money, occasionally suffer by the bankruptcy of the borrowers, and thereby of the bankers. Metallic money, although the material of the unit is metallic, can in no true sense be called a commodity or have mercantile value because the material is a valuable metal, any more than the units in a ratio or an equation can be called such, in any absolute sense. Quantity of metal in the unit ought to keep prices steady, and would do so under universal bi-metalism and

portion to loans. If, say they, metallic money has mercantile value, the holders of bank debt will demand all the gold and silver they need, and as this averages less than one per cent., three per cent. is a large reserve. This is logical reasoning from the mercantile theory of money, quite as logical as that which leads to the importance of a trade balance, payable in coin, because coin is wealth in itself. Smith thought differently, although he believed gold and silver to be commodities, always worth the labor they cost. Hence, all the reasoning based on the mercantile theory of money ought to be, exactly what we find it to be, — a tissue of contradictions. In the management of bank reserve, as well as in reference to mono-metalism, the theory ought to be, as it will undoubtedly at some time be, abandoned. Whether gold actually leaves the reserve at all to pay checks, and if so, in what quantities, is merely a matter of curiosity, and has, in point of true science, no reference to the quantity which ought to be kept there. The less of it actually carried away the better, so long as it is more convenient to buyers and sellers to let it remain. It buys and sells in precisely the same manner in the equations of exchange between buyers and sellers, whether it leaves the reserve for a few days, or whether it remains there all the time: local steadiness of prices through steadiness of loans is the important object to be sought through a regulated reserve, as bi-metalism is important only for the purpose of maintaining general steadiness throughout the world. Neither regulated reserve nor bi-metalism has any importance in and of itself, but only as means to an end, and that end is steadiness in the purchasing power of the monetary unit. It is precisely so with mining for the precious metals, so far as money is concerned: the miner performs a valuable service in respect to money by maintaining steadiness; this service is worth much more than the metal he mines, considered as an article of merchandise.

bank loans, varying everywhere with metallic reserve and properly limited government issues. If the unit is small like the franc, more than five times larger like the dollar, or about twenty-five times larger like the pound or sovereign, it amounts to the same thing, because the value of the several units rates in exact proportion. Value of the unit then depends upon quantity of metal in it, and is it not therefore a commodity, inasmuch as it has value in proportion to the quantity of metallic material? it may still again be asked. Doubtless in this sense it may be called such, and if we neglect to examine any further, we shall always call it such, without any qualification. We must not stop here however, but extend our examination. If in consequence of an increase of metallic production, or decrease of commerce, the quantity of metallic commodity in the shape of money be increased in every holder's hands fifty per cent., his total of money will be worth no more than it was before the increase, whether the increase be in shape of additional units of the same weight, or additional weight given to the old units, were that practicable. In like manner a general decrease of the quantity of metal in each holder's hands would be equally without effect. Purchasing power as a whole, in the hands of all holders, constitutes always one and the same grand total, and hence its constituent parts must each constitute always one and the same minor total in the hands of each holder. This being the case, it is as impossible to change money values as it is to change the value of a ratio by multiplying or dividing its members by the same number. What then are the changes expressed by the terms, rising prices and falling prices? Changes in the purchasing power of each of the units, I answer. These changes may be called a redistribution of purchasing power to each unit of money, in the equations of exchange between buyers and sellers. As the number of the units put into equations of exchange for commodities increases, either by a gradual and permanent change in all money reserves, while the quantities of commodities, or in other words commerce, do

not increase in proportion; by change of the distribution of the units by any other means than commerce; or still again, by increasing their circulation without increasing their volume, as happens under banking, — especially that of the United States and England, — there is a resulting redistribution of purchasing power which is in the first case permanent and in the last two cases temporary, and therefore followed by a reaction. The change in the first case must necessarily be slow and without any great loss or injury to buyers and sellers in national commerce, while in the last two cases its effects are disastrous to all buyers and sellers more or less, but particularly to those who are producers and laborers. There may be also, under certain conditions, loss to some buyers and sellers in national commerce in the first case; and such must be the result of the late action of Germany.

It may be objected here that this reasoning is too abstract, and not practical. Be it so. Practical men objected to the Copernican system in the time of Copernicus, and some very practical men object to it now. Nevertheless it is true, and so is the conventional or abstract-unit theory, whether it be applied to gold and silver or any other kind of money.

Because all purchasing power is one grand total varying only with the total of commodities, services, labor, and capital sold, it follows that if gold and silver were universally money and coined freely by all governments with the weight of the coins alone stamped and thus certified, with or without any name (for that is wholly immaterial), and if there were no paper money and no banks, the value of the gold units would be one half and the value of the silver units the remaining one half of the grand total value of both. Gold, were there no silver, and therefore silver, were there no gold, would each, in its character of units, be worth as much as the total of the units of both gold and silver, where these metallic materials are by supposition employed together. The principle would be the same in respect to division of purchasing power if half a dozen metals were employed,

instead of two only. Gold and silver being by supposition employed *together* without any other kind of money, and without any additional over and above their natural circulation through buyers and sellers, we should have, in the present state of improved and constantly improving means of communication between the different parts of the world, a remarkable and unprecedented steadiness in all ratios of valuation and equations of exchange, or in other words very uniform and steady prices. If there were none but international mints coining for all nations, coinage being confined merely to weighing, putting in proper shape, and stamping the weight of the money units, without giving them any name, the demand for metallic commodities would, as it always has done, take up and manufacture into metallic commodities a much larger number, in proportion, of silver than of gold units, because relatively cheaper and at the same time, not only cheaper, but in many particulars quite as serviceable as gold in the character of commodities. If on the average, forty pounds' weight of silver are mined for one pound of gold, the demand for commodity purposes would probably have brought the value of the two metals in exchange for each other very near the ratio of 1 gold to $15\frac{1}{2}$ silver even if that ratio had not been adopted by a large majority, because all the changes in value of the units of both metals as they now in point of fact occur from time to time, by the use of paper money and the expansion and contraction of circulation through bank loans, apply to and must equally affect both metals. The ratio has been steady at $1g$ to $15\frac{1}{2}s$, so long, that probably this may be considered as very nearly the true ratio. Whether it ought to be considered so, however, is of no consequence in the examination of this question. Gold and silver being by supposition equally and exclusively of all other things the money of the commercial world, their units must necessarily have the same value in all purchases and sales. But would not one or the other even then be found from time to time varying from this ratio? Would not gold sometimes be in excess and sometimes in defect, and would

not the like be true of silver? Unquestionably this would be the case, and always has been the case. Gold being the smallest or least in bulk and weight of mass, its unit in the bullion market is of course expressed by unity, that is to say by 1, while silver, because the heaviest, is expressed by 1 multiplied by the number of times its mass exceeds gold in weight, or $15\frac{1}{2}$. Gold being unity, a decrease in its quantity of $\frac{1}{100}$ makes that quantity $1 - \frac{1}{100}$, silver remaining the same. This decrease can be expressed positively in silver only and the ratio changes to $1g$ and $15\frac{1}{2}s + \frac{15\frac{1}{2}s}{100}$, or to express values more completely in the form of an equation, instead of $1g = 15\frac{1}{2}s$, we have negatively $1g - \frac{1g}{100} = 15\frac{1}{2}s$; or to express quantities positively, $1g = 15\frac{1}{2}s + \frac{15\frac{1}{2}s}{100}$. An increase in the quantity of silver by one per cent., gold remaining the same, is expressed by precisely the same figures in the same equation. An increase in the quantity of gold by $\frac{1}{100}$, silver remaining the same, is expressed by $1g + \frac{1g}{100} = 15\frac{1}{2}s$, or $1g = 15\frac{1}{2}s - \frac{15\frac{1}{2}s}{100}$. A decrease in silver, gold remaining the same, is expressed by the same equation, that is to say, $1g = 15\frac{1}{2}s - \frac{15\frac{1}{2}s}{100}$. In other words, if gold loses $\frac{1}{100}$ of its mass, it is precisely the same thing as if, gold remaining the same, silver were to gain $\frac{1}{100}$ of its mass; and if silver on the other hand loses $\frac{1}{100}$ of its mass, it is precisely equivalent to a gain of $\frac{1}{100}$ of its mass on the part of gold, silver remaining the same. All these changes are changes of proportion between masses by weight, and are stated always with absolute precision. If silver decreases, it is the same as if gold had increased in like proportion; if silver increases, it is the same as if gold had decreased by a like proportion. If gold decreases, it is the same as if silver had increased in like proportion; if gold increases, it is the same as if silver had decreased.

In other words gold and silver, so long as they are used as money by the commercial world, whether universally equally and exclusively on the one hand, or on the other hand, so long as one of them is used exclusively in some countries and the other used exclusively

in other countries, are valued in each other by weight only, without reference to what is called intrinsic value. If intrinsic qualities were regarded, they would be exchanged for each other as in common barter, where not only weight, quantity, or bulk is taken into consideration, but the several uses to which the barterers intend to put the commodities bartered. The only uses to which gold and silver can be put are, first as money, and secondly as material to make plate, etc. The first use is ready to take and distribute by means of purchases and sales all that is mined, because purchasing power is always one and the same, universally, nationally and locally. If no gold and silver were used to make plate, etc., the whole of it would be employed as money, but the whole, so used, would have no greater value as money than has the portion actually left after the demand for manufacturing purposes is satisfied. The only use to which gold and silver can be put as money therefore, inasmuch as additional metal gives no additional value, is, to limit the abstract monetary unit by the whole mass of metallic material consisting of both gold and silver, which does not go into commodity use, and thus maintain that steadiness of prices which no other money can give. If gold and silver were in use as money universally equally and exclusively, in the ratio of 1*g* to 15½*s*, a gain in gold and its equivalent, loss in silver, would be rectified by exchanging silver units of bullion for gold units, coining the gold, and making the difference a profit; and on the contrary a gain in silver and its equivalent, loss in gold, by exchanging gold units for silver units, and coining the latter. Rectification would also take place by carrying more or less of one metal or the other into manufacture for commodity purposes. With international mints or national mints adhering always to the same ratio, there could be no difficulty about "standard:" standard as applied to money has in point of fact no more reality about it, than the old theory of a revolution of the heavenly bodies about the earth. If gold were the only metal of free coinage everywhere, instead of gold and silver, and its

units had the same relations of weight to each other as now, or in other words weighed the same as now, and silver were introduced, gold mono-metalism being succeeded by gold and silver bi-metalism, there would be no change in prices or money values, if the two sets of silver and gold units were not allowed to exceed in number the old gold units: the additional quantity of metal, vast as it would be, while it could never change values, would be limited so as not to change prices in the least. If the gold units were doubled in weight, thus dividing their number by two, and the silver units were made of such weight that their total and that of the gold exactly equaled the former total of gold units, there would be no change of money values, because there would be still the same number of abstract monetary units, neither more nor less. Upon the same principle, if the whole commercial world, regulating as one country the money of the commercial world, were to double by repeated recoinages with slight changes each time — too slight to incur danger from counterfeits and melting coin into bullion — the weight of all the gold units, and reduce by one half the weight of all the silver units, assuming each metal to have, each the same number of units, prices would continue the same. Intrinsically and essentially therefore, there is no difference between paper and metallic money except the cost of metallic material, and the vast difference in steadiness of prices: miners may continue to mine without affecting prices materially, and they might for a time suspend mining. In the latter case, the reserves of metal in the form of plate and other metallic commodities would maintain the equilibrium of prices, and in the former case, the demand for commodity use would absorb all possible excess.

Even if governments and people were inclined to make changes, they would be so slow that little loss or gain could occur to any one. Nothing therefore can be more stable in value than the precious metals so long as the limitation, distribution, and circulation of their units are not disturbed. They value as units in ratios of valuation and equations of exchange, and not with refer-

ence absolutely to their quantity of metal. If it were not so, they would not be money, nor could they answer the purposes of money. There is intrinsically and essentially no reason why a unit ounce of gold should be worth $15\frac{1}{2}$ or more ounces of silver, except that all purchasing power being one and the same, and its use a process of valuing relatively to each other and exchanging commodities, the total of gold being intrinsically worth for that purpose as much as the total of silver, the total of silver as much as the total of gold, and either used alone worth the same as both together, were both used together, an ounce of gold being furnished for every $15\frac{1}{2}$ ounces of silver, one quantity becomes worth as much as the other, and all changes of mass in either are reckoned in the other. This is what may be called the natural relation of the two metals if left to themselves, because no other certain relation can exist: any other (*e. g.*, mercantile) relation would be fluctuating and uncertain. But if another relation of weight were universally established and acted on, there would be no difficulty in maintaining it, because none could arise, until a part of the commercial world abandoned the convention and undertook to act for itself, as Great Britain has already done, and as following her example, the United States have indirectly and unintentionally done, while Germany has followed the example of both, abandoning entirely her debased silver coinage; and as the nations of the Latin Union have done by compulsion, following all the previous examples as to the coinage of silver, except that they or the most of them with great wisdom retain their silver already coined, awaiting events. The United States having some time ago indirectly (not directly) demonetized silver in respect to free coinage, by coining at 16 instead of $15\frac{1}{2}$, and thereby lost their silver, are now recoining at the same rate, with the probability of losing it again in the future. Such a thing as greater or less value in money as a whole is a mathematical impossibility, because a thing which never varies of itself can never be said to be greater or less. The only change possible, being not in

the total, but in the distribution of the constituent parts of the total, it can only be made through a redistribution of purchasing power, by an increase or decrease on the average, of the number of units used by buyers and sellers. By first increasing, in consequence of putting in circulation, through bank loans to pay for labor whose products will not sell, a sufficient number of units of money to pay for the labor, while the owners of the money loaned (depositors) have an abundance left to meet all their own wants and make their own loans, the additional units do not stop in the labor market, but, through the purchases of labor in order to support itself, go into the distributing markets of consumers and remain until labor's products are sold. Money in use may be called a process of indirect barter: if barter exchange could be and were prevalent under our present state of civilization, two men in the process of bartering would make a comparison of their respective commodities in the commodities of each other, and the comparison would be expressed in units, because any other is inconceivable. The same process in effect takes place with money. If one commodity is sold by a seller for two units and the same seller as a buyer buys another commodity for one unit and a half, the relation of value between them, as expressed in numbers, is that of 2 to $1\frac{1}{2}$ and $1\frac{1}{2}$ to 2. Again, variations in the relative value of the same commodity at different times are stated in terms of money. If a bushel of wheat sells to-day for one dollar and next month for one dollar and ten cents, values stand as 1 to $1\frac{1}{10}$. In this manner commodities are exchanged for each other indirectly by means of money, instead of directly by means of barter. A seller takes a commodity to a buyer, and a buyer goes to a seller to buy it, and by means of buyers and sellers the exchange is effected. Money in use is the process by which buyers and sellers effect the exchange. In this way, high prices in one country or place are balanced more or less by low prices in another country or place, and on the other hand, low prices in one place, by high prices in another

place. During the late civil war in the United States, this would have taken place equally in respect to all commodities, had not wheat and other produce, the surplus of which sought a foreign market, been carried in the home market in consequence of the very high prices prevailing in the United States and the comparatively low prices abroad, relatively below other produce which did not seek a foreign market. The fact of there being a large amount of wheat produced in those countries to which our surplus wheat was sent, they requiring only that surplus, forced the price of our surplus to some extent down towards what would have been the price, had they instead of the United States produced the surplus. Had the United States produced all the wheat consumed abroad, the case would have been different; the comparatively lower general prices abroad would have come nearer towards balancing the comparatively higher prices at home. The wheat would have been valued in the expanded currency at home in its due proportion with all other things, and would have been exported under such a valuation; but wheat being largely produced abroad and therefore valued abroad in comparatively lower prices, the wheat of the United States, instead of being valued entirely in the home currency, was valued, so to speak, in both currencies at the same time: the expanded members of the home ratio of price and the comparatively contracted members of the foreign ratio were combined; wheat was the loser as compared with commodities not exported at all, and therefore valued exclusively at home. This loss to the producer and gain to the consumer of wheat was made up to the producer by the higher relative price of what he sold exclusively at home, and by his participation as a consumer of imports with all other consumers, in the comparative cheapening of imports, caused by the cheapening of wheat. In no other way can the mutual compensation which manifestly takes place between imports from a country of high prices and exports from a country of low prices, be explained: the ratios of high prices of commodities balance those of low, and those of low bal-

ance those of high prices more or less perfectly, and compensation is thus made up to the relative losers more or less perfectly: were it otherwise, and when it is otherwise, they must stop producing for a foreign market. The same principle applies between different portions of the same country, so far as exchanges are made by means of merchandise only, and not money. Nevertheless the American producer of relative necessaries, in the shape of iron and cloth, was placed at disadvantage as compared with the foreign producer of those articles in the American market, by this unavoidable discrimination against wheat.

Gold and silver, although the money of the commercial world, are subject to local variations, with the local money of paper and credit which is convertible on demand into gold and silver. The proof of this proposition may well be considered as equal in certainty to that of a mathematical demonstration, when the unit or conventional theory of money, which I maintain, is either conceded or admitted to have been fully demonstrated. If, as I assert, the purchasing power of money never varies, either throughout the commercial world as a whole, or in any part of it, then the proposition is undoubtedly true. But the main argument of Adam Smith in opposition to the mercantile theory was, that the value of all money lies only in what it procures by the action of buyers and sellers. If Smith's assertion is true (and it is universally admitted) then it follows even from Smith's premises that purchasing power as a whole, and consequently as parts of a whole, never varies, because the whole consists of its several parts in the hands of all buyers and holders. The only variation possible, therefore, must in point of fact, even according to the mercantile theory of money, lie in the apportionment or division of its several parts as a whole in the hands of holders. If at a given time, a certain commodity is sold for three dollars to a buyer, and the seller buys the same or the next day another commodity, with two dollars of the money, the commodity he sold stands to the commodity he bought, in point of value, as 3 to 2,

and the commodity he has bought to the one he sold, as 2 to 3. If, in consequence of the increase of the whole number of money units in the hands of *all holders*, the buyers and sellers in these two cases find that on a subsequent occasion they have on hand fifty per cent. more money than before while buying and selling similar articles, the three dollars become expanded to four dollars and fifty cents, and the two dollars to three dollars. There has been between these two sets of sales and purchases, we will suppose, no increase in the volume of commodities or in the number of buyers, and the only difference is, that in the former or first set of sales and purchases, the values of the commodities thus indirectly exchanged by means of the valuing and paying units of money stood as 3 to 2 and 2 to 3, while in the last set they stand as $4\frac{1}{2}$ to 3, and 3 to $4\frac{1}{2}$. The proportion is precisely alike in the two sets of sales and purchases; the purchasing power of the units of money, *as a whole*, is the same in each case. The only change between the two cases is a reapportionment of the purchasing power belonging to each unit, by taking off one half, or fifty per cent. of its purchasing power in the first set of purchases, and carrying that purchasing power so taken off to other and additional units and fractions of units, in the second set. This change gives each of the units two thirds only of the purchasing power of each of the old units. Now if between these two sets of sales and purchases, the volume of commodities still continuing the same as before, the units of money had decreased in number fifty per cent., instead of increasing fifty per cent., the figure 3 would have been changed to $1\frac{1}{2}$, and the figure 2 to 1. Values of commodities exchanged would have then stood as $1\frac{1}{2}$ to 1, and 1 to $1\frac{1}{2}$. The proportion or ratio of $1\frac{1}{2}$ to 1, and 1 to $1\frac{1}{2}$, is the same as that of $4\frac{1}{2}$ to 3, and 3 to $4\frac{1}{2}$, and both these proportions are precisely the same as the old one of 3 to 2, and 2 to 3. The purchasing power continues one and the same total in the hands of sellers and buyers through all these changes, and it would have continued the same had the increase been

one, two, three, four, five, or more per cent. in the first case, or the decrease one, two, three, four, five, or more per cent. in the second case; and what is true of this set of purchases and sales is true of every other set, and therefore of all purchases and sales. Hence all money is in substance the same, whether it be gold and silver, paper, or even units of record, transferred only on bank, government, or other books, and whether there be or be not gold and silver or paper in reserve behind the units of record, which are transferred by entries alone. *Gold and silver value by means of abstract units, like all other money.* Now in the cases given above by way of illustration, had the units of money remained the same in point of number as a whole, and therefore in the hands of all buyers and sellers, while the commodities on hand and exchanged had decreased fifty per cent., the result would have been the same; purchasing power would still have been the same and the proportion of money to commodities the same, but there would have been a redistribution of purchasing power as before. Had commodities increased on the other hand fifty per cent. instead of decreasing, the units of money still remaining the same, there would have been a redistribution of purchasing power in the opposite direction, and the only change would have been in commodities. If commodities decrease fifty per cent., there is a redistribution of purchasing power among the units which stood to each other as 3 to 2 and 2 to 3, by changing the units as before from 3 to 4½ and from 2 to 3; but if commodities increase fifty per cent. instead of decreasing, then by changing 3 to 1½ and 2 to 1, as in the cases where commodities continued the same, and the units of money alone changed. Purchasing power therefore, I repeat, never changes, because it is always one and the same total, and that total is the total of commodities exchanged, whether that total be greater or less. All the changes which actually take place are in commodities and not in money, because money in use is, to speak with rigorous accuracy, but a process, by which commodities are indirectly valued and exchanged or bar-

tered. The process is a valuation, by units limited and localized, and transferred from buyers to sellers. The price of a commodity sold, compared with that of a commodity bought, appears in abstract units, and the relative exchangeable value of commodities is thus shown, while the units themselves stand in the hands of holders as conventional equivalents received by them as sellers for commodities sold, to be received from them by other sellers, when they in turn shall become buyers.

Money in use being thus but a process, if clearly perceived to be exactly what it is, there is no difficulty in understanding how the holders of money can deposit it in bank, and how while still using it in their own purchases and loans to the same extent as if they had not deposited at all, the banker can make an additional use of it (even gold and silver) in the way of loans, which he could not have made, had there been no deposit; and that this additional use must lead on the part of the borrowers to additional production, which ought to be and could be — were the true science of money understood — regulated so as to stop, short of a crisis.

There is as little difficulty in understanding how a military or other violent removal of money from one country like France, where it had been duly distributed by commerce, to another country like Germany, must necessarily cause a disturbance in production and prices, and consequently a reaction. It follows also — metallic as well as other money in use being only a process of indirect barter — that in order to give the steadiest proportion possible to the values of commodities exchanged by its use, it must be duly limited, not only in the whole number of its units by the whole mass of metallic commodity out of which the units are made, but its use also at some stage (in banking for instance), by those who hold it as borrowers. As there are natural inequalities in the distribution of wealth, some have capital in the shape of commodities, productive capital which helps as an agent in company with labor to produce commodities, and also as a consequence money, in excess of others. As they cannot use the excess, they loan it to

others, who, in order to pay back the money loaned, must employ it in production. But all the money they loan must come into their hands in exchange for commodities sold to consumers, either by themselves or others for them. This use by way of loan (excluding banking) is not in excess of commodities actually consumed, and therefore it may be called a duly limited use: it is limited by actual commerce. But any additional use, over and above this, is in excess of actual commerce, because it is demonstrably in excess of demand. It is therefore resorted to only by nations of great productive energy, and when resorted to, two conditions ought to be carefully maintained: the additional production ought not to be carried so far as to raise prices to excess — to change the values of commodities for instance from the proportion expressed by 3 to 2 and 2 to 3, to $4\frac{1}{2}$ to 3 and 3 to $4\frac{1}{2}$, which would be a change of fifty per cent. in the redistribution of purchasing power among the units, or even to the proportion of $3\frac{3}{4}$ to $2\frac{1}{2}$, and $2\frac{1}{2}$ to $3\frac{3}{4}$, which would be twenty-five per cent. Changes of this kind which result from unrestrained bank loans, followed by the falling off in production and the additional use of money which causes it, bankrupt producers and merchants, and sometimes banks. By the rise of prices, these joint partners in production are deceived, and when production falls off, as it must for want of a market, the additional use of money in buying falls off, and with it prices fall off also. Were it not for the rise of prices, the extra production would stop at an earlier period, and would be more effectually limited by markets; producers would not be deceived by the rise and would be compelled to look to marketing their products from the start, instead of only producing them. The rise of prices in such a case is in reality, upon the principles demonstrated, a fall, because although consumption, or in other words the actual exchange of commodities, or in one word commerce, is largely increased, commodities in overstock have increased much more. The production of these, through payments for labor and raw

material, have expanded the proportion of 3 to 2 and 2 to 3 up to $3\frac{3}{4}$ to $2\frac{1}{2}$ and $2\frac{1}{2}$ to $3\frac{3}{4}$, because money has been put to additional use to the extent of additional production to pay wages and profits, and therefore its use has increased in proportion to the increase of that production. The proportion of 3 to 2 and 2 to 3 has expanded its units twenty-five per cent., while the actual commerce of consumers has expanded only twelve and one half per cent.; the overproduced articles not going into the market of consumers because they are in excess and have cost too much, and because while they are in excess they are at the same time held by means of loans. The expansion of the units twenty-five per cent. in point of number above the proportion of 3 to 2 and 2 to 3, must turn to a contraction of twenty-five per cent. below the proportion of 3 to 2 and 2 to 3, when the commerce of consumers has not only lost its gain of twelve and one half per cent., but incurred a loss in addition of twelve and one half per cent. more. Production falls off and the over-produced articles then gradually come into market, not at average prices, but at prices as much below average, as the cost of producing them was above average.

The want of limitation in these cases is not in the number or "volume" of metallic pieces (the units employed being by supposition all metallic), but in the want of a due and proper limitation of their use in exchanging, not commodities, but labor and commodities, because the money loaned was paid to labor for raw material, and the working up of raw material which went into overstock that did not and could not for a long time go into the market of consumers, while the money wages thus paid labor and profits paid capital out of borrowed money immediately went into the market of consumers and changed the proportion of 3 to 2 and 2 to 3, thus redistributing purchasing power by an increase of the units in point of number twenty-five per cent., and so reducing the purchasing power of each, twenty-five per cent. Prices under these circumstances, instead of being an index or measure of values, become

a measure of the expansion of production over and above the actual average commerce or exchange of commodities for consumption: instead of showing that prices have really advanced twenty-five per cent. in consequence of commodities actually exchanged falling off twenty-five per cent., they show on the contrary that the volume of commodities actually exchanged for consumption by means of money has increased, and looking at that increase alone, had the units of money actually exchanged continued the same, prices ought to have fallen. They have actually risen however twenty-five per cent., and the rise has come through the excess of production in some quarters over and above consumption in all quarters. The increase in the number of units in the proportion is measured by the expansion of production; the decrease in their number is measured by the increased consumption which the increased production has caused to take place. In this complicated process, two forces are at work, one to increase the purchasing power or value of each unit in the old proportion of 3 to 2 and 2 to 3, by increasing the quantities of overproduced commodities actually consumed, in excess of what could have happened, had the overproduction not been possible through loans, and the counteracting force through production which increases the number of units of money paid labor and capital, and so causes each of them to lose purchasing power, largely in excess of gain in purchasing power. Due limitation of the units of money in the proportion of 3 to 2 and 2 to 3, as well as all proportions of which I have made 3 to 2 and 2 to 3 the type, ought to be the first objective point therefore in all monetary systems, and would be if monetary science were not in point of fact, what it long has been in theory, chaos itself. It may be objected that this kind of reasoning is very abstract and far from practical. Such I answer was the Copernican system to some who maintained the Ptolemaic, and such is the Copernican system now to some of the most practical men in the world, who naturally prefer a theory of their own which can-

not be demonstrated, to a theory founded on fact, which can be demonstrated. Beyond all reasonable question, money values commodities in the character of abstract units, and the units, localized and limited, are, in the hands of holders, conventional equivalents. Hence quantity of metal in the unit is of no absolute importance. Whatever the mass of either of the precious metals going into the shape of coin, and distributed through commerce, may be, a proper limitation of their number is, not indeed as essential as a proper limitation of their use, because for want of the latter we have commercial crises which are disastrous in their effects, but still, proper limitation is essential in all respects. Again, there may be a want of proper limitation resulting from a want of proper distribution of metallic units of money and a want of proper distribution resulting from a want of proper limitation, while the mass of each metal in coin still continues the same, because it is not any given quantity of metal which is given and taken in exchange for commodities, but a unit or units limited more or less perfectly by, and more or less proportioned to, the whole mass of each metal, in the shape of coin duly distributed through commerce. A unit weighing one quarter of an ounce is just as steady a measure of values as one of four ounces in and of itself, and for monetary purposes worth as much. The bulk and weight of silver constitute a serious objection to its use, and might constitute a decisive objection, if still more serious objections to its disuse did not exist. If nine tenths of the weight of silver coin could be dispensed with by governments in coinage, by casting the nine tenths into mid-ocean, it would be well, did not the danger arising from melting down plate and old coin, and counterfeiting the new coin, stand in the way. If the demand for commodity use could be so expanded as to take in the nine tenths referred to, it would be very desirable, but this is impossible. The extra and superfluous weight must be borne with therefore, if we are to retain silver: no more of it can be forced into commodity use, than demand will naturally

take under existing conditions. The only change possible by means of coinage is, therefore, through a redistribution of purchasing power to the units of gold on the one hand and silver on the other, whereby the commodity demand may be somewhat affected, not as a whole, but by way of redistribution, so to speak, of the total demand for both metals, more in favor of silver, although it is difficult to see what benefit would result. If under international mints, or national mints internationally regulated, it were deemed advisable to make the gold unit comparatively lighter and therefore the silver unit comparatively heavier than now, it could be done, thus artificially increasing the demand for commodities of silver and decreasing the demand for commodities of gold.

The natural value of gold independently of money is not fifteen and one half times as great as that of silver for equal weights, for if neither were in use as money, gold and silver might possibly stand for equal weights, as 1 to 3 or 4, or even as 1 to 2. The intrinsic qualities of the two metals would, with the varying wants of consumers, control the demand and the quantity of each metal used. But because the units of both metals have been for a long time the money of the commercial world, although both are still used to supply demand for commodity use, one metal is, naturally, or as it might be said, mathematically, worth as much as the other for use as money, because value lies not in quantity of metal, as M. Say affirms, but in exactly the opposite quarter, that is to say, in commodities at large. Money in use is only a process of exchanging commodities by metallic or other units, which measure and at the same time stand, the equivalents of values. Hence gold as a whole, although much less in mass and weight than silver, is worth as much as silver, as a whole.

But gold, being for equal weights thus worth in money fifteen and one half times as much as silver and no more, if silver were unduly cheapened internationally in respect to gold, through a redistribution of purchasing power among its units, by increasing the weight

and diminishing the number of its units as compared with those of gold, and at the same time decreasing to a corresponding degree the weight and increasing the number of the gold units, thus leaving all the units the same in total number as before, the result would be, that although the value and the purchasing power of each unit continued the same as before together with the old idea of "gold value" as compared with "silver value," nevertheless the change would undoubtedly carry into commodity use a larger relative amount of silver in consequence. As it is, a much larger proportion of silver than of gold is taken up by that demand than relative product by weight would indicate.

If forty pounds of silver are produced to one of gold, the commodity demand must absorb nearly ninety pounds of silver for one of gold, leaving the remainders one of gold and fifteen and one half of silver for monetary uses. This commodity demand may be called the natural commodity demand for commodities made of gold and silver as modified by the fact that both are units of money in effect, from the very moment that they are refined and weighed. In the absence of commodity demand, the silver unit would weigh 40 and the gold unit 1. As money, these weights would be equivalents, but as silver is a very desirable metal in the opinion of consumers, their demand consumes twenty-four and one half parts out of the silver unit and less than one third of one part out of the gold, leaving weights as $15\frac{1}{2}$ to 1. Therefore in order to understand the science of money, the value of the abstract unit must be carefully distinguished not only from the commodity value of the metals, as it would be, had they never been used as money at all, but also aside from the actual demand for metallic commodities manufactured out of the precious units of metallic material which at the same time supplies units of money. Unit values, or rather the distribution and redistribution of purchasing power among the abstract units of silver on the one hand, or gold on the other hand, or those of both metals, and not quantities, control bullion values. They control bullion values, because

bullion values are relative: bullion values are gold valued in silver, and silver valued in gold. An increase of silver or of gold units is a redistribution of purchasing power, which affects equally all the units of both metals when they circulate together. A rise in silver may be divided, by making one half of it a fall in gold, and a rise in gold divided, by making half of it a fall in silver. Internationally there could be no difficulty whatever in fixing bullion ratios, subject to the demand for commodity use, if a change were really desirable: all the trouble arises from nations acting separately in respect to what is of international concern, and can be effectually regulated by international arrangements alone. This independent action of nations arises from the vast complexity of the science of money and the fact that the true science of money has not yet been established. Standard is in all its implications contrary to fact as applied to money, for how can an abstract unit be a standard? The metaphysical impossibility of conceiving of any other valuation than that by units, the mathematical impossibility of any other, the actual fact that gold and silver values vary with weight of respective units only, and that paper money is but a set or series of units in the hands of holders, are standing demonstrations of the fact that all money is but a series of such units. Why has this fact never been perceived, understood, and acted upon?

THE COMMODITY DEMAND FOR ARTICLES OF METALLIC MATERIAL IN THE SHAPE OF GOLD AND SILVER.

One of the reasons why the true science of money has not yet been established, aside from the vast complexity of its movements as an agent in the distribution of commodities, may be and probably is the fact, that the material of the money of the commercial world consists of valuable metals, and in its earliest stages must necessarily have been some kind of commodity, or tangible thing treated as a commodity in exchanges. Quantity of metal being *apparently* the only important ele-

ment in establishing the value of the metallic money unit, it is hard to understand why quantity of metal has no absolute or real importance in point of fact in metallic money, when it has an apparently absolute as well as a real importance in the metallic commodities intended for use, which metallic money distributes. All commodities are estimated in standard units of measure or weight, but precisely the same rule applies in the coinage of gold and silver, and the value of the metallic units is fixed by weight. Wherein then is there, for the human understanding, any difference? The difference lies in the fact that the commodities distributed are intended for actual use and consumption by those who buy them, while the gold and silver are only the conventional *media* of the distribution. In commodities intended for actual personal use and consumption, units of measure or weight are resorted to, to find and fix absolute quantities intended for consumption, while in the unit of money, weight is resorted to, to find, establish, and limit the units. Purchasing power being always one and the same total, not affected by the increase of metal on the one hand, or decrease on the other, quantity of metal becomes an abstraction except for the purpose of localizing, limiting, and duly distributing the metallic units through commerce. For these purposes, it is not an abstraction, but a practical and very important reality. But because even metallic money values, and passes from buyers to sellers, in the character of units, and thus becomes a measure, in and through its units, of the value of units of commodities, standing in the hands of holders as a conventional equivalent for them, it accomplishes, thus and so far, precisely what the units of paper money accomplish and no more, and precisely what units transferred on bank books, either with or without any reserve, may do. Metallic money is the money of the commercial world, and therefore all other money ought to be convertible into it on demand; and not only so, but the reserve which maintains convertibility ought to bear some definite relation and proportion within short periods, to the paper and book money.

Even when convertibility has been suspended, the metallic limitation which makes the pound nearly five times as much as the dollar, and the latter more than five times as much as the franc, attaches to and maintains the relative purchasing power of these three several units of money.

THE PARTICULAR APPLICATION OF THE UNIT THEORY TO THE QUESTION OF MONO-METALISM.

The ratio of 1 gold to 15½ silver is at this time what may be called the combined artificial and natural monetary ratio of gold to silver, in point of relative weight, those being the relative weights of gold and silver left for monetary or coining purposes after the demand for commodities manufactured out of gold and silver, in whole or part, is satisfied. These weights ought to be adhered to, assuming gold and silver to be in use as they were in Germany and the nations of the Latin Union before the suspension of free coinage of silver. But under existing circumstances, silver as reckoned in gold having fallen much below that ratio, or what is the same thing, gold having risen above it, or what is still the same, gold having risen as much as silver has fallen, ought the United States to coin enough silver to drive out gold, and thus adopt indirectly the mono-metallic silver standard? If the bi-metallic standard is, under existing conditions, better for all the world than a mono-metallic standard, then unquestionably the true course of the United States is, to wait in an expectant attitude like France and most of the other nations of the Latin Union. Having at present a mono-metallic gold "standard" they ought to adhere to it, coin silver enough only for subsidiary purposes, and let the test of sufficiency, excess and defect, be exchanges at will on the part of holders of suitable sums in silver for gold, and suitable sums in gold for silver at the treasury; coining hereafter at 15½ instead of 16, and recoining at 15½ as soon as convenient, what has already been coined at 16, because purchasing power, as before stated, is

always one and the same total. Were it not so, high prices in one country would partially neutralize low prices in another, and low prices in one, high prices in another; and the result would be a constant variation which would make trade an impossibility. Hence, the common opinion among writers on political economy, that the trade between foreign countries through the medium of bills is barter. This is true only in the sense that all trade whatever, domestic as well as foreign, is indirect barter, through the medium of money as an auxiliary in the exchange. American grain, provisions, and raw material are indirectly bartered for English goods by the medium of money and bills of exchange, and the bills of exchange are the instruments, by means of which the money is sooner or later paid. If through high prices in the United States, a unit measure of grain exported stands to a unit measure of raw material exported, as 4 to 8, taking this proportion as a type of prices in the United States, while in England the type or average stands at fifty per cent. less, or 2 to 4, no great loss results to the exporting merchant through the comparatively low type or average of prices in England. His exported merchandise, although valued in the ratio of high prices at home before export, is afterwards, it is true, valued in the ratio of low prices in England when sold there, but the proceeds of sale are immediately invested in English goods valued in the same ratio of low prices. He is thus compensated by his purchases in England, because and only because purchasing power is always one and the same thing. The figure or figures resulting from dividing 8 by 4 at home, under the high ratio, are the same as those resulting from dividing 4 by 2 abroad. But inasmuch as gold and silver, although the money of the commercial world, depreciate and appreciate locally with all other money, whether convertible or inconvertible, in consequence of inconvertible paper money and expanded use through banking in excess of the use which would be possible in the absence of banking; metallic money, *because* it is the money of the commercial world, cannot be taken from the coun-

try of low prices to make purchases in the country of high prices, without loss, while it can be taken from the country of high prices, to make purchases in the country of low prices, at a profit, if the purchaser is a traveler who buys for himself or a merchant who buys for others, provided he can find buyers at home. In all cases monetary valuations are by ratios or proportions in which abstract units must be employed, and gold and silver rise and fall with them. Metal furnishes these units, and every sound monetary system ought to make its objective point of perfection, the due limitation and distribution of the units in the hands of all buyers of commodities, and the due regulation of all extra or additional use of the units in the purchase of labor through the machinery of banking, in such a manner that, although purchasing power as a whole must continue ever and always the same, the distribution of that purchasing power in the hands of all buyers shall continue as uniform as possible. In other words, the number of units required to purchase a given number of units of commodities ought to continue with as little variation on the short average, as possible; producers and merchants will not then be entrapped, by an undue increase of units in circulation, into loss through a subsequent decrease of them, when they want to sell. That all money valuations are by ratios in which the units are necessarily abstract, as they must be in all ratios, is true beyond reasonable doubt: this necessarily follows from the assertion of Smith more than one hundred years ago, that money is valuable only for the purpose of buying. This, it may be said, is a mere truism, but nevertheless the unit theory which I have demonstrated for the first time necessarily follows from it. Money has been called a unit, it is true, and said not to be a commodity, but what is needed is a plain and clear demonstration of the fact that even metallic money values in the character of an abstract unit and not in the character of a standard; that is to say, not in the character of a particular quantity by weight of metal. M. Say declares that it values in the character of a definite weight (standard) of metal.

This proposition is maintained, or more properly, it is not in terms denied by any writer to my knowledge. If it ever has been denied by any writer, he has not followed up his denial with a demonstration of the falsity of M. Say's proposition, by proving the truth of its direct opposite. This is what I have attempted, and as I believe succeeded in accomplishing. In view of the late monetary action of Germany, the nations of the Latin Union, and the United States, in respect to silver, and the effects of that action upon the due and proper limitation and distribution of metallic units through the agency of commerce, and in view of the present depression throughout the United States and other parts of the commercial world arising from an unduly expanded use of the money unit, to pay wages of labor and profits of capital in excess of sales of their product to consumers and buyers with ready cash not borrowed, it is high time for some one to furnish this demonstration. This, as before remarked, I have already done, and therefore I shall in what I have written and shall write here, only furnish the leading points of the demonstration. Units of paper money and units of money of record on book (even after the deposited coin had been removed) could never have been used as money, unless the gold and silver and other commodities or materials used as money at periods antedating the advent of the paper units had always been used in the same character.

Gold as money, and silver as money, would never exchange for each other in the bullion markets in exact mathematical proportions by weight of masses only, without reference to any intrinsic qualities of either metal, if money were not an abstract unit of bullion, limited by weight, instead of bullion measured by units for consumers, like copper, iron, or platinum. There would be a demand for money in the same sense that there is a demand for commodities or merchandise, if money were either a commodity or merchandise. Demand and supply could be imputed to money, were it a commodity, whereas demand and supply cannot be imputed to money at all. Demand for commodities knows

when it has enough and stops; it knows when it has not enough, and asks more. Money, on the contrary, absorbs among its units all the units of metal, which demand for metallic commodities made of the precious metals does not take. Demand for metallic commodities, knowing that it has silver enough, cannot be forced to take any more, and thus relieve money of a very heavy load of silver which it is now obliged to carry, to its great inconvenience. Money, making no demand, and yet having no limits to the power of absorption and distribution of its units, is never troubled, on the other hand, with any want of units; while it takes all the units that come, asking only time to distribute them through commerce as its agent, it can lose any number of its units without any loss to itself, as it acquires units without any gain to itself; the only difference being, that each of its units through increase in their number loses, while through decrease it gains, purchasing power. If therefore the units in any part of the world gain fifteen per cent. in number, each has upon the average lost fifteen per cent. of purchasing power; if on the other hand they lose fifteen per cent. in number, each has gained fifteen per cent. in purchasing power: the gain and loss are exact monetary equivalents, and yet the former, occurring between the periods of producing and consuming his products, may carry a man into bankruptcy, and the latter occurring within the same periods may carry him out of it.

Again, while the bullion market furnishes mathematical, consciousness furnishes metaphysical proof of the unit theory, because it is impossible to conceive of any general measure of the values of commodities except by means of abstract units, while at the same time it is impossible to conceive of any other general or universal relation of silver and gold to all other commodities, than that of weight, without any regard to intrinsic qualities. The units of weight of the precious metals must therefore value as abstract units, and hence they control in and by this, their abstract valuing character or function, the value of the metal in which they are

embodied, and by which their number is limited. This limitation puts a limit by definite numbers to their abstract value, and converts them into practical realities. Again, the value of one commodity expressed by 2 alone is an abstraction, and the value of another expressed by 3 alone is an abstraction, but compared, show that the commodities stand to each other in value, as 2 to 3, and 3 to 2. This comparison is a practical reality. Abstract units thus become practical realities by the limitation and distribution of metallic units through commerce, and a perfect or imperfect limitation of their use in banking reserve. That which values and that which is itself value, therefore, in money, is not the five grammes of silver in a five franc piece, taking that coin as the type of all metallic money, as M. Say affirms, but the money unit, embodied in and limited by the five grammes of silver. Weight of metal gained by the unit adds nothing to the purchasing power of the unit, and weight of metal lost by the unit takes no purchasing power from it, without in the former case distributing the gain, and in the latter the loss, to all other units employed or used as money, by decreasing the total number in the former case, and increasing it in the latter. If production of all commodities were to fall off gradually and permanently in all directions, prices would rise, but if by recoinage from time to time the weight of the metallic units could be increased in the same proportion by which production fell off, prices would continue the same. So in England, assuming metallic money to be exactly, as it is virtually, the only money in use, if the gold sovereign could be recoined and weighted with additional metal in due inverse proportion to the increased circulation of all sovereigns in payment for wages of labor and profits of capital in growing excess of markets, prices would continue the same, manufacturers and merchants could not accumulate such excessive overstock, and there would be only moderate advance and falling off from time to time, as production would moderately advance above average, to fall moderately below average. But in the downward

rapid movement of production, which of itself always checks the use or circulation of money, it would be essential to recoin at the old weights, in order to balance the diminished consumption, or in other words commerce, which always results from the falling off in production. Prices would thus continue steady, and there would be comparatively slight advance of production above average, and therefore slight falling off below average. There would be precisely the same quantity of metal in the country under recoinage, as there always is without recoinage, but in the former there would be steady prices and therefore steady production, while in the latter there would be, as in point of fact we find, *high prices* and advancing production, followed by *receding production* and low prices. In these cases of recoinage the value of the unit would be controlled by the value of its bullion, instead of the latter being controlled by the former. Any permanent and extensive change therefore, in the commerce in which either of the precious metals is to be employed, ought to be accompanied by repeated recoinages (admitting them to be practicable), in order to bring the metallic units in harmony with commerce: gain in the unit of one metal is an exactly equal loss in the unit of the other, or what is the same thing, the gain and loss are equally divided.

Now it has been said, and it may be replied again in answer to my argument, that the unit theory is not new, because other writers have denied that money is a commodity. This answer amounts to nothing, because every writer upon money has logically admitted the theory in asserting, as Smith has done, that the value of money lies in what it procures. Is it therefore a mere question of words? Is it a mere question of words, because all *impliedly* admit, as Smith has done, that money is not a commodity when they affirm that its value lies not in itself, and some, a little more precise in the use of terms, follow up this proposition by adding, that for this reason money is not a commodity? If we stop here it is undoubtedly only a mere question whether in point of logi-

cal precision in the use of words, we ought to retain or exclude Commodity as a monetary term. But it is essential, in order to arrive at the true science of the subject, to have something more than a mere battle of words, which can only leave our feet more firmly fixed than before in the bridge of false reasoners, and ridding ourselves not only of the slavery of words and terms, but also the fallacies underlying them, endeavor to establish a true science founded upon facts, and adopt terms which are in harmony with facts. The science of money is now and always has been a science of contradictions, because all scientists admit by implication that money has no mercantile value, when they say that its value lies only in what it buys, but at the same time deny it in terms, when they assert, as does M. Say, that the five grammes of silver in a five franc piece is what buys and pays, instead of the monetary unit embodied in, limited by, and thus made a practical reality through the metal, when it is used to value commodities, and stand as a conventional equivalent in all sales and purchases. This admission is again withdrawn and its proposition denied, when scientists and other people write and talk of a mono-metallic or a bi-metallic standard, in shape of the typical five grammes of silver or gold as a *quantity* of metal, and measuring as such the value of commodities, whereas their admission really implies that quantity of metal cannot be a measure of values, because it has no direct relation to them: it only relates to them remotely and indirectly through its units, and has no other relation, if the admission be true in point of fact. It is impossible, upon the abstract-unit theory, for silver or gold, as distinguished from commodities manufactured in whole or in part out of silver or gold, to be cheap or dear, or rise or fall in any general sense, because as money and in the character of money, their value, like that of all other money, never varies; the only change possible being in the distribution of purchasing power among their units as a joint total, or several totals. If before a commercial crisis in England, when production is progressing, when its advance above average has

nearly reached its limits, and general prices are twenty-five per cent. above average, a laborer or producer, in buying an article for consumption, pays twenty-five per cent. above average in gold sovereigns in point of number and therefore in weight of metal, if quantity of metal alone determined values in this case, the metal thus increased twenty-five per cent. ought, when demand keeps pace with supply, to be worth twenty-five per cent. more than before in exchange for commodities; and on the contrary, if, while demand has continued the same, the metal has still increased twenty-five per cent., it ought to be worth no more than before. What is the actual fact in these cases? The actual fact is, that in all these cases the demand for the metal, if we assume it to be a commodity and therefore subject to demand, rises with the quantity of metal paid, whatever it may be, and hence the assumption conducts us to the absurd conclusion that although demand for gold has risen with the supply, gold has actually fallen twenty-five per cent.

This *reductio ad absurdum* proves the falsity of the premises. Merchandise and goods have only changed their values in exchange for each other therefore, *through the medium of the gold*, and hence it is only a question of demand and supply as to all of them: there can be no question of demand and supply in respect to the gold. Moreover, a change of supply in one commodity does not always throw the increase on the market, but sometimes reduces the price of that part of it sold. If gold were used only as an ordinary commodity in barter, an increase of supply twenty-five per cent., without any change in demand, would not necessarily require twenty-five per cent. more gold than formerly in all exchanges in which gold appeared: the units of weight of gold, although supply had increased twenty-five per cent., would not themselves increase twenty-five per cent. upon the average, in all exchanges of commodities made for one single commodity, gold. But such an increase nevertheless actually takes place in all exchanges made with gold in London, after prices have risen twenty-five per cent. While this rise is going on, the grand total of

"commodity" gold, throughout the commercial world, and the minor total of gold in England, have not increased a quarter of one per cent., and yet they ought to have increased twenty-five per cent. if there were a real fall in gold. There is then no real fall in gold; the real fall is in "credits," and what is that in any intelligible sense, but a fall in the value of the abstract monetary unit called in England a pound, and when embodied in gold, sometimes called a sovereign? The real fall is in the purchasing power of this abstract unit, and the fall results from an invariable because mathematical law of proportion, which is this: if the value of a commodity be called and designated to-day by four abstract units, or in other words by 4, and to-morrow by 5, each of the units in 4 has lost one fourth of its purchasing power and carried it into another and additional unit, thus making the whole number of units five instead of four. The commodity which is worth four abstract units to-day, thus becomes worth five abstract units to-morrow, but the five units taken together are worth no more because they exchange for no more, to-day, than the four units did yesterday. The units in 5 have thus fallen, each twenty-five per cent. below the purchasing power of each of the units in 4: "credits" have therefore fallen in the character of abstract units twenty-five per cent., and have carried all the units embodied in gold, with them. Although the currency of England is virtually "gold," the result is the same as if abstract units of pounds limited by paper money in the shape of bank notes, had risen in "volume," or what is the same thing, number, in *all* exchanges, instead of units limited by book entries and transferred by checks. The fall of twenty-five per cent. in gold, so called, is really a fall in the purchasing power of the abstract monetary unit called pound, by increasing the number of units in *all* exchanges from four to five, or in other words, twenty-five per cent. If there were no clearing houses, and gold were actually paid out at every exchange instead of being transferred by check, the result would be the same, because the monetary unit is always value stated in abstract or generalized form,

and could not serve the purposes of money, were it not so. The abstract monetary unit rises and falls, and carries its bullion with it, because the monetary unit itself in its rise and fall is only the expression, in monetary form, of the controlling forces behind it, and operating through loans, in the form of production and consumption, demand and supply. If the bullion could and did control the rise and fall of its monetary unit, instead of the latter the former, there would then be undoubtedly what there is not now — a rise and fall of gold. The commodity or mercantile value of the typical five franc piece, considered in the light of a standard, as claimed by M. Say and the other writers upon monetary subjects, is therefore founded on a misconception.[1] It is founded on ap-

[1] The illusion of a supposed commodity or mercantile value in any kind of money whatever is the mercantile theory itself, pure and simple. If gold and silver as money have such value, they ought to be subject to the action of demand and supply like all other things having mercantile value, but such is not the fact. This illusion will always exist in the minds of holders of metallic money at large, especially those who hoard it; with them it is a perfectly harmless illusion, and not only harmless but thrifty in its effects, as far as it tends to promote the combined industry and economy which lead to a "favorable trade balance," in behalf of either individuals or communities. But its effects on statesmen, scientists, and that very small part of the banking world who study monetary science, have become, through the complex developments of production on credit and trade, disastrous indeed. As long as they take it for granted without investigation, that metallic money is a commodity, so long will they maintain that gold mono-metalism, without general recoinage, is not only unobjectionable but desirable for Western nations, and that if a capitalist, merchant, or laborer draws a check upon a bank and the bank hands him gold or silver because it suits his convenience, then he gets a commodity, but if he prefers to let the gold remain, then he gets no commodity, but bank credit only; and therefore banks supply the demand for gold when they keep all that people will carry away. The *practical objection* to the mercantile theory in such cases is, that it entirely ignores steadiness as the grand objective point in money. Bi-metalism and Smith's law of proportion between metallic reserve and loans are essential, only because they are essential for the purpose of steadiness. Smith says that the banks of issue in his time helped the dealers (producers more properly) by enabling them to have at command, through bank loans, and to keep on hand, a sum of money in bank notes equal to the amount they would have been required to keep by them in coin, had there been no banks of issue: they were thus enabled to use their credit to this extent, and only to this extent. When they were allowed to borrow beyond this point, it was excess for which they and the banks sooner or later paid dear. This is precisely the principle upon which he maintained the necessity of a duly pro-

pearances but not realities, and ought now to give way to a theory founded upon facts, as the Ptolemaic system of the universe, founded on apparent facts, gave way to the Copernican, founded upon actual facts. A universal commodity medium of exchange can be used only in the character of units of that commodity: quantity of this commodity must be agreed upon and go into use, in the character of a unit limited by the whole mass of the commodity used as money. This unit being money of the whole commercial world, or of some part of it within reach of the world's commerce, can only be changed by mutual consent, and to avoid all danger of counterfeiting and other fraud, by small and repeated changes. In point then not only of mental conception, which is a fact, and in point of exact mathematical measure by weight only in the bullion markets, which is a fact, but also in point of rise and fall of prices in gold, which is a commercial fact, gold values in the character of an abstract unit, not duly limited by its mass in the London markets, when through a rise of prices resulting from its extra use by means of bank loans, to pay the wages of labor and profits of capital while overstock is being created, in excess of sales of their product, twenty-five per cent. additional weight of gold in the shape of sovereigns, in excess of average, is required to pay for a certain quantity of commodities, which upon the average can be purchased without the aid of that excess.

Two modes of limitation only can by any possibility be thought of in a monetary, as distinguished from a mercantile sense. Those two modes are, 1st, a change in the quantity of gold contained in a sovereign, by recoinage and adding say twenty-five per cent. of metal to all the sovereigns, after prices have risen, thus decreasing their number twenty-five per cent., and a second recoinage at old rates after prices have fallen twenty-five per cent.; 2d, a limitation of the loans which cause the expansion and thus indirectly the subsequent

portioned reserve for banks of issue, which is equally necessary for all banks, in order to equalize as nearly as possible the outward and inward currents of money.

contraction of prices, by a metallic reserve of sovereigns in the banks making the loans. These modes are exact equivalents, *but the latter alone is possible;* the former is impossible. It is not quantity of metal in the sovereign which determines its value, for with or without recoinage, precisely the same quantity of metal would be paid in all these exchanges, whether prices are up or down. If there were no recoinage, there would be twenty-five per cent. more in point of number of units and weight of metal paid; if there were recoinage, there would still be twenty-five per cent. more metal, but no increase of units. The real difference therefore lies between an increase of units twenty-five per cent. in case of no recoinage, and a consequent rise of prices, and on the other hand by weighting the coins with twenty-five per cent. additional metal, no increase of units and consequently no rise of prices. Weighting the units with twenty-five per cent. additional metal would diminish their number twenty-five per cent., and thus balance the twenty-five per cent. excess of circulation corresponding with an equal excess of production. Such a change, however, would be impossible; and why impossible? Because money is not in any sense subject to the law of supply and demand as a commodity or article of merchandise, and all expressions denoting demand are merely figures of speech. There is a demand for commodities composed of gold and silver, and that demand is satisfied by selling commodities or merchandise for units of metal, manufacturing the metal into metallic commodities, and selling the same to consumers. It is because money is not wanted for consumption but only as a generalized unit of valuation to value commodities relatively to each other and to procure or purchase, and pay for them, standing as a conventional equivalent for them until thus valued and purchased, that quantity of metal is important in any sense: it is important only for the purpose of maintaining the relative values of the commodities exchanged as steadily as possible, and without any change unless that change has universal operation, and even then, only to the extent unavoidable by human contrivance.

If money valued as a commodity, and therefore in the character of so many pounds, ounces, penny-weights, and grains of metal, as M. J. B. Say and before him Adam Smith affirmed, and as after him, Mill and Price in England, Professor Perry and other writers in the United States, have with great precision and clearness of statement affirmed, then in the cases referred to, the fall in price would have attached to the metal in the sovereigns alone, and there would have been no rise of price in the standard units of commodities. But did not the metal fall in price, or valuing and paying power, precisely as much when by supposition there was no recoinage as when there was recoinage? Yes; unquestionably, but when there was no recoinage, the loss of the bullion in purchasing power was exactly balanced and counteracted by the increase or expansion of units of money in circulation. Prices therefore rose with the increase and exactly in proportion to the increase of bullion, whereas had there been an equal increase of copper or iron in excess of demand, although there would have been a fall in copper just as there was a fall in gold, the standard units of weight of copper or iron consumed would not have increased in proportion; and even if they had done so, the extra units would have disappeared as fast as the extra metal. The increase in quantities would in that case have *controlled* and reduced instead of carrying up prices, while in the sovereigns, units without regard to the weight of their metal fell in value, carried their metal down with them, and without reference to its *fall*, caused a general *rise* of prices.[1] If no commerce for the purposes of con-

[1] Prices, and therefore production and commerce, have been steady in France under her bi-metallic currency, not because her metallic money is a commodity, not because it cost commodities and has value in and of itself, but because the money has been and continues to be evenly distributed in steady volume, by and in proportion to commerce, national and international. The result has been, fewer failures and bankruptcies, and a much more even distribution of wealth on the whole, than in the United States and Great Britain. The monetary system of France was not the sole cause of the difference, but it was the principal cause. The manner in which the cause operated was, by limiting production on credit through loans in France, what-

sumption were required, all consumers supplying themselves, and if commerce consisted of exchanges merely for purposes of curiosity and employment, should silver increase twenty-five per cent. in excess of gold and other metals, a readjustment of its units with twenty-five per cent. more silver would be requisite, to prevent rise of prices in silver. If no such readjustment took place, the units of silver in circulation would gradually increase twenty-five per cent., or on the other hand, those of other metals and materials would fall relatively twenty-five per cent.; or still again, they would fall twelve and one half per cent., and those of silver rise twelve and one half per cent. The price of silver however in the bullion market would at first fall in other metals twenty-five per cent., or on the other hand these would rise twenty-five per cent.; or still again, silver in bullion would fall twelve and one half per cent., and all other metals rise in mass or bullion twelve and one half per cent., as the complement of the fall of silver. If no readjustment of the weight of the silver unit took place, prices in silver would ultimately rise twenty-five per cent., while prices in the other metals would fall relatively twenty-five per cent.; or on the other hand they would fall, while those of silver would rise twelve and one half per cent. each. After prices had been thus adjusted by a redistribution of the units, twenty-five per cent. more silver than formerly would be requisite to make the silver exchanges, and twenty-five per cent. relatively less of the other metals, or twelve and one

ever shape the product might take, by the market of cash buyers who buy with cash not borrowed, much more perfectly than in the United States and England; and prices were steadier: there was less danger of a commercial crisis in France, because that arises from excess of debt. There was less debt in France than in those countries when the commercial crisis came upon them; not that France has less debt to show upon the long average, by any means; how the fact may be in that respect, is not material. The important fact is, that overproduction — producing to excess for a time in any one quarter — causes an excess of debt above average. The lesson for the United States and England is, how to retain all the stimulus to production and all the conveniences their banking systems afford, and still approximate the steadiness of production and prices, and the comparatively even distribution of wealth, found in France.

half per cent. more silver and twelve and one half per cent. less of the other metals. The bullion price of silver would in the last case rise twelve and one half per cent., or up to its old rate of exchange, while that of the other metals would fall twelve and one half per cent. towards the old rate of exchange. The loss in purchasing power of the silver unit would thus be counteracted in the latter case by an equal gain in its bullion, and the gain in purchasing power of each of the other units would be counteracted by an equal loss in bullion. In no way could the surplus silver be disposed of and maintain the exchanges in harmony, except through a readjustment of the weight of the silver unit, by increasing it twenty-five per cent. in the first or twelve and one half per cent. in the last case. In the absence of such readjustment, the relative gain of units by silver could never be counteracted except by the accidental gain of units, relatively, by other metals.

The precise difference between rise and fall of gold and silver in their joint character of bullion, as compared with a fall in the bullion or mass of platinum, copper, iron, tin, lead, or any other metal, and in fact of any commodity whatever, may be stated more satisfactorily perhaps to the reader in another form. If platinum were to be produced in excess of former production by twenty-five per cent. within a very short period, but at the same cost, the demand on the part of consumers might or might not in time catch up with the increase in supply. If demand did not increase at all, its price would tend to fall twenty-five per cent., and the excess would continue with producers, and might never reach the market of consumers unless they reduced the price. Taking an ounce as the standard unit of weight, the ounce might sell for nearly or quite twenty-five per cent. less than formerly, although the excess of twenty-five per cent. might not all at once reach the market of consumers: the price of platinum would fall, not because every buyer of platinum would now in all cases obtain one and twenty-five one hundredths of an ounce instead of one ounce only in weight, for the same price one

ounce had formerly cost him before the excess arose, but he would buy precisely the same quantity (one ounce) for nearly or quite twenty-five per cent. less money. The cheapening of platinum, therefore, would not carry into every exchange of consumers twenty-five per cent. more metal than before, but exactly the same amount, or any amount consumers might want, at less cost. The *important* result here, to which I call the reader's particular attention, is, that there are not immediately any more unit ounces of the metal platinum in the market of consumers than before, and the only immediate difference is that the unit ounce actually consumed is cheapened twenty-five per cent. in its exchange with other commodities. But suppose the demand of consumers expands with expanding production, and precisely in the same ratio. The wants and demands of consumers will then, by consuming the increase, retire and remove from the exchanges the twenty-five per cent. increase in standard unit ounces. As fast as the commodity increases, its unit ounces, which are its constituent parts, increase, but the units are retired from the exchanges of consumers through increased consumption, as fast as they are brought into those exchanges through increased production. But suppose the platinum to have increased twenty-five per cent., and no part whatever of the original mass or its increase to be wanted by consumers at all, except like money to give in exchange for all other things: it becomes then what is called money. How can this increase of twenty-five per cent. be disposed of? I answer, by immediately adding the increase to the original mass, and thus only. The increase therefore must go into each exchange, as twenty-five one hundredths of an ounce to be added to every ounce of the former total. Bullion of platinum has thus depreciated twenty-five per cent., it may be said. True indeed! but what bullion? Is it the original mass, or the mass as thus increased twenty-five per cent.? It is neither, because the mass thus increased is worth in exchange without any reference to the wants of consumers precisely what the original mass was worth before the in-

crease and no more: it will, although thus increased, exchange for precisely the same amount of other things the original mass would exchange for before the increase, and no more. There is no gain in purchasing power or value whatever as a whole, and it is equally certain there is no loss. An important change has resulted nevertheless. What is it? It is a loss of purchasing power or value in exchange, of twenty-five per cent. on the part of each of the units of the old mass, and a transfer or redistribution of the value thus lost to and amongst the units of the new mass; thus making all the units, old as well as new, worth each, only eighty one hundredths of the value of each of the old units before the increase took place. This is the rigorously exact difference between platinum — a mere metallic commodity as it now is — and all gain of mass in it through increased production, and platinum as it would be in its character of money, with an equal gain, if monetized. The difference would be of the same kind on the negative side or loss in mass, calling the former (gain of mass) the positive side of the equation of value. Platinum is now in point of fact a metallic commodity only: suppose it, instead of gaining, to lose while thus a commodity only twenty-five per cent. of its mass, demand remaining the same. The unit ounce rises in value say twenty-five per cent. (it might in point of fact rise more), the unit ounces retire from the market of consumers more rapidly than before, and consumption is checked, because there is actually less to consume. The unit ounces in the former case of increased production, although actually increased in number twenty-five per cent., did not, because they could not, carry their increase into the actual market of consumers any faster than consumers were ready to take it, and only when and as they were ready; and exactly to the same extent, the units of the mass on the one hand and the mass itself on the other disappeared, because they were disposed of in exactly the same proportions. Although the unit ounces of platinum gained twenty-five per cent. in number with the twenty-five per cent. gain in mass of

the metal platinum in first hands, of which mass they were constituent parts, still the twenty-five per cent. excess of units would not sell to consumers any faster than they were able and ready to take them. This is the positive or gaining side on the part of platinum in its present character of metallic commodity, as to both mass and units of mass.

Now look at the negative or losing side, platinum still continuing by supposition metallic commodity only. The commodity has now, instead of gaining, actually lost twenty-five per cent. of its mass and therefore twenty-five per cent. of the unit ounces of its mass, into which Demand and Supply for their own convenience divided it, as portions of the mass, permanently measured by means of a standard weight. As the mass has grown less, wants of consumers and demand continuing the same, the same unit ounce rises in price: although the mass has become more valuable, there is no necessity of a readjustment of weight of the unit ounce in relation to its mass, in order to bring mass as now valued and units of mass in harmony, by reducing the weight of the unit twenty-five per cent., because production and consumption, demand and supply, while they maintain harmony between the mass and its units as production advances, maintain it also as production falls off. There is therefore no necessity for increasing the weight of the unit ounce of the commodity platinum as production advances, nor is there any necessity for diminishing it, as production falls off. Were it not for the wants and therefore demand on the part of consumers of platinum, it would be a matter of indifference what the weight of the unit of platinum might be: it might be indifferently more, and it might be less than an ounce: in short the unit would be an abstraction, and would possess no mercantile value. The unit might therefore be assumed to be of one weight to-day and another to-morrow. It is a practical reality, only because consumers want it, and a fixed and unvarying unit of weight becomes therefore essential. To-day it is metallic commodity only, and that portion of its mass actually bought by consumers

and therefore consumed on the one hand, and the unit ounces of that portion on the other hand, are maintained in harmony with the masses and the units of all other commodities exchanged for them, exclusive of gold and silver, whether the total mass of platinum actually increases or decreases; but monetize it to-morrow everywhere with free coinage and in the character of generalized-commodity units it will rise enormously, and that portion of its mass which consumers do not want, and therefore will not take, will be coined and used as money. If production of platinum advances (supposing platinum the only money), or as an expanded circulation through banking is given to the units of platinum, to pay labor faster than the products of that labor can find consumers, more platinum and consequently more units of platinum are required to buy the same amount of other commodities, because the units of the metallic mass actually given in exchange for the units of other commodities, instead of remaining the same except as consumers retire more or less of them by consuming more or less metal, as they did when the metal was merely a commodity, actually gain on the contrary, in point of number, exactly by the same ratio the metal loses in value, and buyers are compelled to give so much more of it in exchange for commodities. Commodities have all changed their values, by rising, not in the units of metallic merchandise, but in abstract units limited in number by the whole mass of metal.

Prices have risen twenty-five per cent., and therefore five platinum sovereigns are required by consumers in the London market, where four only were required before. Had platinum continued to be metallic commodity only, the fall in platinum would not have carried into the market the twenty-five per cent. additional metal, and therefore unit ounces of metal at twenty-five per cent. lower rates than before, but only the same number, to wit, four ounces of metal at lower prices by twenty-five per cent. In the latter case, the fall in purchasing power or value in exchange of platinum as commodity would not have carried into the market an increased

number of units corresponding to the fall of platinum, but in the former case (fall of platinum as money) the number would have increased in exact proportion. Instead therefore of denoting in the former case to all buyers and sellers the actual fact that platinum alone has fallen twenty-five per cent. in reference to other commodities, the market actually shows a rise of all commodities twenty-five per cent. as reckoned in platinum.

While one and the same standard applies therefore for all time and is suitable for all commodities wanted by *consumers*, it is wholly inapplicable to money. Being a general measure of values, and as money without any particular commodity value whatever, and because it is impossible to change the unit of weight daily, monthly, or yearly, and never without concurrence and joint action of the commercial world (and even then gradually and slowly), it is a mathematical impossibility for even metallic money to value other commodities in the character of a given weight, because the fall of its bullion cannot be compensated by an equal fall in the number of its units, so as to harmonize the two. Standard in the sense of mono-metallic, bi-metallic, or quantity of any commodity either by measure or by weight, is, although very practical, as contrary to fact, as the practical Ptolemaic system of the universe. Gain of metallic product on the one hand cannot add to, and loss of metallic product on the other hand cannot take from, the value of metallic money, and it may therefore be added of any other money, because the unit controls the value of its bullion, instead of the latter controlling the former; and therefore all money is essentially alike, because it values in the character of abstract units alone. It is important therefore, that the metallic unit in circulation be duly limited by its mass in circulation artificially. But I have just shown that this is practically impossible. What then is possible? What is possible is to reduce the variations to a minimum, by a proper distribution of the units in company, through and in proportion to commerce: this will bring general, or what might be called

general-average variations, to a minimum. What is further possible in reference to particular or local variations arising from expanded circulation is, to limit loans universally by metallic banking reserve. But if no gain arises from increasing and no loss from decreasing metallic production, why continue to mine, so far as metallic money is concerned? Because and only because, the weight of the unit cannot be readily changed, and mining is essential, in order not to add to or take from the value, in exchange, of metallic money or of all money as a whole, but in order to maintain with as little relative gain on the one hand or relative loss on the other as possible the value, in exchange, of each metallic unit, by keeping their number in harmony with commerce. Commerce has gained greatly of late years and so has metallic production. Meantime the gain in metallic product as compared with the whole number of metallic units of money at present standard weights, and units of commodities at present standard weights and measures, is nearly uniform, because production is too slow to affect values, and if metallic product of either kind should increase largely, commodity demand would balance it. The real monetary standard therefore is the abstract unit of weight of each metal, properly distributed by commerce, with its *circulation properly limited* as near as may be throughout the commercial world, by natural conditions. The value of the metallic unit, like that of all money whatever, is, although entirely conventional, as perfect and unvarying as the wit of man can make it, if left to itself, without its distribution and its circulation being interfered with, under the old illusion that what is apparently true is really true. What is apparently true is M. J. B. Say's proposition: what is really true is its direct opposite. Metallic money, I repeat, gains nothing by increase, and loses nothing by decrease of mass: consumers have taken, are always taking, and always will take, as much as they can in the shape of metallic commodity, and any further addition to the mass of money adds nothing to value, because it is not wanted by consumers. If there were no consumers

there would be no commodity demand and there could be no such thing as value. The objective point of perfection in all metallic money is to maintain, as far as practicable, harmony between the unit and its bullion; and because the standard units cannot be made to grow proportionally less in number as their bullion loses value, nor on the other hand made to increase proportionally in number as their bullion becomes more valuable, the only alternative is, to regulate the distribution and circulation or exchange of all metallic monetary units for commodities, so as not only to maintain harmony between the metallic units and their bullion but also between all monetary units and the units of all commodities, as nearly as possible.

I will now apply these demonstrated propositions to bi-metalism. Silver, through the action of Germany and the nations of the Latin Union, has fallen in bullion value reckoned in gold: I will call its maximum fall twenty per cent. Gold has therefore risen twenty per cent. in silver and silver fallen twenty per cent. in gold while silver has fallen and gold risen, each ten per cent., reckoned in the other. Now suppose twenty per cent. to be the average fall of silver, resulting from the causes hitherto in operation and the increased and increasing calls of the nations of the Latin Union and the United States for gold. Will an increase in the demand for silver, and a decrease in the demand for gold commodities, restore silver and gold to their old relations? It is impossible to say how far changes in demand of this character may affect bullion values. I have thought that they would go very far towards restoring the old ratio, but on further reflection, I am inclined to think otherwise. It cannot be the cause of any permanent gain of the demand, because silver must ultimately rise to old rates, but if we call the temporary effect five per cent., this would leave the remaining difference to be adjusted, fifteen per cent. What the influence of paper money issued by governments and banks, and the expansion of circulation or use of that paper, as well as of *gold itself* through banking, may be, in the way of rais-

ing and maintaining prices above metallic prices as they would be in the absence of such influence, it is impossible to say, but I will suppose it to be maintained at former average. A change in the distribution of metallic units will then be a cause, operating in the way of rising prices on the one hand, and therefore falling prices on the other. No change in the relative weights of silver and gold units through coinage has been thought necessary on the part of those nations adopting what is called gold mono-metalism. Although both metals are the money of the commercial world, while in respect to international commerce the whole commercial world may be regarded as one country, they have all supposed they might, without at least any injury to themselves, adopt the mono-metallic gold "standard" in the character of a piece of metal of a given weight according to the opinion of M. J. B. Say, and, so far as I know, of all other economists. As silver departs therefore, gold must take its place: the commerce lost by silver will be taken possession of by gold, and surplus silver relegated to the commerce of those countries where it has free coinage, subsidiary uses still absorbing in mono-gold countries a portion which I shall suppose to be covered by the five per cent. already referred to. But fifteen per cent. is the estimate and perhaps a fair estimate, of the silver thus permanently displaced, and relegated to mono-silver countries; and the fifteen per cent. covers the old mass of silver coin displaced, as well as future product corresponding to it. The gold which will take the place of the silver will be worth as much as the silver, neither more nor less, but each of its units will have on the average seven and one half per cent. higher exchangeable value reckoned in commodities, than the silver unit it displaces. Therefore the gold unit and its bullion, hitherto in harmony, will part company and be seven and one half per cent. distant from each other. Nothing but recoinage of its unit with seven and one half per cent. less gold can restore the relation, but this is out of the power of England, Germany or any other nation alone. England and Germany can force their silver upon

those countries still using it, but they cannot dictate the terms upon which they must take it. All who have an interest in the matter must have a voice in settling the terms. A permanent gain of seven and one half per cent. on the part of the gold unit is therefore the result, and consequently a general fall in prices of seven and one half per cent. in mono-gold countries. But if the gold unit rises seven and one half per cent. the silver unit must necessarily, assuming commerce lost and gained to be the same, fall seven and one half per cent.; and how is this to be accomplished? Prices must rise from time to time locally, as the excess of silver is distributed, to fall locally afterwards as the distribution is extended. How will the distribution take place? By the hand of buyers undoubtedly, because it can take place in no other way. Silver will not be shipped as commodity: it will be shipped as money in everything but form and face, and to a great extent in both form and face, to buy with, in countries where silver is "standard." Perhaps three fourths of it will be shipped by buyers to the East; and how will the buyers obtain it? They will obtain it in the character of sellers only, because they will sell merchandise for gold, and *exchange* the gold for silver, ship the silver, and with it *buy* merchandise. What effect rising prices will have in China and other countries using silver, it is impossible to say. Possibly production might to some extent and for a short time be stimulated locally even in China, but in all probability, it will not. There must therefore be a rise of prices in the ports of foreign trade of mono-silver countries, and rise in exchange, with reactions from time to time in the volume of commerce until the gain is evenly distributed. Let us suppose that this takes place at last, without raising the question of mono-gold-metalism or bi-metalism in the countries using silver: prices will then have risen in those countries seven and one half per cent. But three fourths of all silver has probably gone East in the hands of buyers: in the future, this total will be increased seven and one half per cent. Does the East produce silver? Very little, certainly: it is nearly all

produced in the West, and largely by the United States. The rise of seven and one half per cent. as reckoned in silver, and the fall of seven and one half per cent. as reckoned in gold, will take place without any reference to demand and supply and without any reference to standard, so called, whether mono-metallic or bi-metallic, because sellers who have in possession, for sale, merchandise which they do not want, to consume themselves, will sell their merchandise to buyers who want, and therefore *demand* merchandise, in exchange for gold; this gold they will exchange for silver, and with the silver they will buy merchandise, say in China and the East Indies, ship the merchandise, and sell it in the West.

Silver bullion, I repeat, will not be purchased as a commodity, and therefore there will be no demand for it as commodity or merchandise. In a figurative sense, it might be said, that after the countries using silver have absorbed in their circulation the seven and one half per cent. excess of silver thus carried to them by buyers, who obtained the silver indirectly as sellers, by selling their merchandise for gold and then exchanging the gold for silver; in a figurative sense, I repeat, it might be said, that demand and supply will exactly have balanced each other when the excess is thus absorbed, but it could be affirmed in no other sense. Suppose platinum now a commodity, to be shipped instead of silver: how and by whom would the platinum be procured? It would be procured by buyers, and not by sellers, as in the case of the silver: it would be valued by buyers and sellers in gold where prices have fallen seven and one half per cent., and it would be exported as merchandise, to places where it would be sold for account of shippers in a currency of silver, in which prices have risen seven and one half per cent., and the cash proceeds in silver would be invested in return merchandise, valued in the same currency. The rise in silver prices will therefore exactly balance the fall in gold prices in respect to the merchandise called platinum, and all other merchandise bought, exported to, and sold

in, the East; and the case is exactly the same on the other side with gold. The *mercantile* exchanges will always balance as they do now; but at the present time an Eastern buyer cannot take his silver and buy in Western markets without taking his silver to the bullion market and submitting to a loss of fifteen per cent.: the monetary exchanges are therefore so far against him, while the mercantile are at par. He is a loser therefore now as to monetary exchange, but not as to mercantile exchange. But will silver continue fifteen per cent. below gold? Certainly not, upon the principles already demonstrated. When prices in silver have risen seven and one half per cent. no buyer can obtain merchandise in the East without paying seven and one half per cent. more than formerly for the same amount: China and the East Indies therefore will require seven and one half per cent. more silver than formerly to buy the same quantity of goods, for the surplus silver not required to satisfy demand for silver commodities must and will go to the countries using silver, and will be absorbed by, and distributed through, commerce. Inasmuch as rise in number of silver monetary units to a corresponding degree necessarily follows, silver must gain seven and one half per cent. of its loss in bullion exchange. But the same principle is at work in the opposite direction in countries using gold: prices of merchandise will fall seven and one half per cent., and seven and one half per cent. less gold than formerly will be required in reference to commerce. Therefore gold must fall in bullion exchange seven and one half per cent., and the old ratio of $15\frac{1}{2}$ to 1 will be restored. The seller of merchandise in the West will sell for gold at seven and one half per cent. *lower* rates for merchandise than formerly, but will exchange it for silver at the same rate as formerly, and buy merchandise in China and the East Indies with the silver at seven and one half per cent. *higher* rates than formerly. Gold will therefore fall (indirectly) in China and the East Indies and other mono-silver countries in the manner stated, fifteen per cent., while a merchant in all mono-silver countries can sell his merchandise for seven and

one half per cent. more silver than formerly, exchange that silver for gold at the old ratio of 15½ for 1, and with that gold buy seven and one half per cent. more merchandise than formerly, in countries using gold. Silver therefore, although it will fall directly in China and other mono-silver countries seven and one half per cent., will indirectly rise fifteen per cent. in countries using gold, through the bullion exchange. The present bullion exchange loss of silver — fifteen per cent. reckoned in gold — will be balanced by its indirect rise of fifteen per cent. in the bullion markets of all the mono-gold countries, while the old bullion rise of gold of fifteen per cent. will be balanced by a fall of fifteen per cent. At one and the same time, therefore, gold in mono-silver countries will have actually fallen indirectly fifteen per cent., while silver has actually risen indirectly in mono-gold countries fifteen per cent., although gold has risen in general purchasing power seven and one half per cent. in the latter, and silver fallen seven and one half per cent. in the former. On the other hand, the gold product of the miner has risen (at the expense of buyers and sellers) seven and one half per cent., and through gold silver has also risen seven and one half per cent. in mono-gold countries, and fallen seven and one half per cent. in mono-silver countries. Prices will have been carried up in mono-silver countries seven and one half per cent., entirely at the expense of buyers in mono-gold countries, not only without any benefit to them or to sellers, but on the contrary to the positive loss of both, unless possibly general production should be, not only stimulated but permanently advanced, upon the probability or improbability of which I have no inclination to speculate. I shall assume therefore that production will be as much depressed by advancing lower prices in mono-gold, as it will be stimulated by advancing higher prices in mono-silver countries.

What is the cause of all this chaos of bullion values and prices, stated with the utmost possible precision and in the fewest possible words? It is a loss of former proportion between the units of each metallic mass and

their mass itself, and at the same time between the units of either mass and the units of the other mass, by a redistribution of the silver units seven and one half per cent. in excess, and of the gold units seven and one half per cent. in defect, of commerce. Could it have been avoided? It could have been avoided only in one of two modes: 1st, by letting gold and silver remain in *statu quo;* and, 2d, by general, gradual, and repeated recoinages, with slight changes at each recoinage, although one recoinage would answer, waiving risks of counterfeiting and melting down. Recoinage being out of the question at present in point of fact, although not in principle, the former mode is the only alternative. Silver may be burdensome, but gold is also burdensome in large transactions, and the true "practical" direction of reform is, to introduce international coinage or national coinage internationally regulated, and to store gold as well as silver in countries like England and the United States, using both without moving either, when movement can be avoided. Germany might well wish to get rid of her debased silver, but this could have been done by a recoinage, gold being introduced gradually at the same time, and "bi-metalism" thus established. England made a mistake in rejecting silver, but her mistake and coinage of silver by the United States at 16 instead of 15½ were unimportant by the side of the mistake of Germany. Precisely the same number of units of both metals will be found after this redistribution shall have taken place as before, but the old commercial distribution will have been disturbed, and it is out of the power of Germany to restore harmony between the units and their mass. Could a new division, and therefore limitation, take place by self-acting machinery, then indeed no harm could result, because the seven and one half per cent. economy of gold would equal the seven and one half per cent. additional expense now incurred by mono-gold nations, not only without corresponding benefit, but with considerable loss. The quantity of metal in each mass would be the same in each case, but if the gold coins could be

increased seven and one half per cent. in number by a corresponding loss of metal in each, and the silver coins diminished in number by a corresponding gain, there would be no important change in other respects. Quantity of metal is not value in exchange, but the unit duly limited by the metal. One quarter of the present masses of gold and silver would be worth as much as the present masses, and metallic production is important for two purposes, — to supply the material for metallic commodities and to furnish, at present bullion ratios, metal enough to prevent the metallic unit of either kind from gaining unduly in purchasing power, through falling prices. It is just as important to keep the units of silver at normal purchasing power as those of gold, and those of gold as those of silver.

It would be quite as reasonable, if the true science of money were understood, to urge the propriety of checking metallic production, were that possible, in order to reduce the purchasing power of each unit, and in fact it would be much more reasonable, than to increase the purchasing power of the gold unit at the expense of decreasing that of the silver unit, as is now being done by a redistribution of silver in excess, and gold in defect, of commerce.

It is not easy to comprehend fully the idea of value lying in the metallic unit limited by its bullion, instead of the bullion itself as affirmed by M. Say, in spite of the demonstration I have given, but it is unquestionably true in point of fact, although it will never become the "practical theory." The practical theory of the earth in its relations to the other members of the solar system is still according to the apparent instead of the real fact, in calculations intended for practical purposes of many kinds, such as navigation, clock, or sidereal time, etc., but when it comes to real science, a convenient theory gives way to a scientific one founded on fact. So ought it to be with the science of money. The true (Copernican) theory of money is the one I have given, and which I have demonstrated to be founded on fact: the every-day (Ptolemaic) theory, with some modi-

fications (Ptolemy invented epicycles to make his theory work), is the false but convenient one, stated with such precision by the writers I have named; I say modifications; because they were compelled to modify the theory in common use, by adding to the proposition that a coin values as a given weight of metal, the qualification that notwithstanding the fact that weight has value as such (and therefore on its own merits by way of use), the foundation of its whole value, nevertheless, lies only in what it procures. The fallacy lies in supposing that anything can have value in a double sense, or in any sense but an abstract and conventional one, unless that value is originated and controlled by the elements of demand and supply. Demand and supply have, as before stated, no reference to money in point of fact. This is shown as far as language can show it, by the terms Buying and Selling. No one buys or sells money: everybody buys, that is to say, obtains commodities *with* money, and everybody sells commodities *for* money: money always constitutes one side of the equation.

If gain in quantity of silver metal brings no additional commodities to silver in mono-silver countries, and on the other hand loss of gold takes no commodities from gold in mono-gold countries, how by any possibility can M. Say's proposition be true? Even in commodities, the natural law is that all excess above consumers' wants has value, only upon the assumption that demand will some time or other absorb the surplus, in consequence of supply through production falling off in order to meet it. A twenty-five per cent. excess of cloth naturally tends to make the whole supply, with the excess, worth no more than it would be without excess. Bank loans enable producers to keep excess out of market, while they for a time apparently raise the price of what consumers actually buy of the article, although there is in reality loss locked up in the overstock, as soon as it begins to accumulate. Now if the producer of cloth or iron which is still accumulating, after having already accumulated to an excess of twenty-five per

cent., and therefore naturally lost value approximating twenty-five per cent., were compelled, instead of selling to every buyer who wanted cloth or iron, all they would take at his prices, to sell twenty-five per cent. extra of cloth or iron, or in other words a yard and a quarter of cloth and a ton and a quarter of iron at the same prices a yard or a ton cost before there was any overproduction, overproduction would be immediately arrested, because the producers would be *losing* their overstock instead of *keeping* it, and loss would be at once demonstrated before their eyes. Exactly the *reverse* is true of money, because of the absence of all mercantile or consumer's demand for it, and the fact that the excess of money, assuming excess to be possible, has no value in itself, either actually or potentially.

Loss of value in metallic money is shown always by an additional amount above average being given in exchange, and the fact of the excess going into exchanges is what causes the rise of prices which deceives producers. The very fact of producers not being compelled to carry their excess into the markets with them is precisely that which deceives them, while inversely, the fact that money-holders are compelled to carry their excess into the markets is that which deceives them and all the world. Demand being the only foundation of mercantile value, and money not being subject to demand, its value must necessarily be abstract or conventional: money is the medium in which values are expressed in general terms, and money value lies in the money unit, and not, as M. Say affirms, in the metal. If no increase can add value to the metal and no decrease take value from it, my proposition must necessarily be true and M. Say's false. All money is substantially alike, paper and "credit" included, and the grand object of a metallic currency, of metallic production itself, and of bi-metalism (for mono-metalism must under present conditions be excluded) is steadiness of mercantile values. Permanent general steadiness cannot be maintained without maintaining proper limitation and distribution of the units of both metals,

nor can local steadiness be maintained without stopping at some designated point, through banking reserve, the bank circulation of the metallic unit or the paper or credit unit which is limited by the metallic. If the metallic units could fall in number with their falling, and rise again in number with their rising, bullion, then the metallic unit would be regulated by its changing mass, generally and locally, and then we should always have steady prices, without the necessity of any artificial limitation and distribution of the units through bi-metalism, and without any artificial regulation of their use or circulation in banking, as inversely we should have no ill-balanced production, if the measuring units of commodities could control the masses of commodities. The mono-gold standard being established and remaining undisturbed, its evil effects could not be remedied and prices kept steady without recoining all gold with seven and a half per cent. less metal, and all silver with seven and a half per cent. more, the economy gained in gold then and thus balancing economy lost on silver, in point of steadiness as well as metallic cost. Again, gold might be used with fifteen per cent. less metal, and silver with only seven and a half per cent. less: this would carry up prices both in gold and silver, fifteen per cent. Again, gold remaining undisturbed, silver might be used with fifteen per cent. more metal, and this would reduce prices in silver as well as in gold, seven and a half per cent. As this is impossible, however, results must be as stated. These results are really in harmony with what has often taken place when the issue of paper money in great excess of volume or number of units has occurred, and the general rise of prices has been increased (perhaps doubled), by an unduly expanded bank circulation of the whole number of units. When "gold rose" in England after the suspension (called restriction) of the Bank Act in England and after the suspension of the government and banks in the United States, was there really any such thing as a mercantile rise of gold in the character of a commodity? Certainly not, for *buyers* could *buy* no more with gold than with paper, but there

was a premium in the exchange of the two kinds of money in favor of gold. That premium was greatly below the actual loss in purchasing power of the money unit: probably it did not in the United States average, after the war, one third of the average loss of purchasing power in all money, under its increased volume and the expansion of circulation through banking, which depreciated the gold as well as paper unit. Purchasing power continued, during and after, precisely the same as before the war, as a whole, although commodities changed greatly. The changé in the relative value of commodities arose from changes in demand, both during and after the war: the changes in demand during the war arose largely from the necessities and demands growing out of the war and the changes in production, while the changes after the war arose largely from increasing, followed by falling production. With somewhat over seven hundred millions of paper money after the war, general prices were for a long time enormously above average, increasing as production advanced, and until it was arrested; and since 1873, they have been falling, until in 1878 they are, with the same volume of money outstanding, much below average. Average prices depend upon the average number of units of metallic and other money distributed permanently by and through commerce, while rising and falling prices depend upon the local volume of paper money, and the more or less expanded use of all money in and through banking. The increase in number of money units upon the average through paper money is short-lived, compared with that arising from an increase in the number of metallic units, while the expanded circulation of all money through banking is more short-lived still, because the expansion is arrested by a fall in production, followed by an equal contraction in the circulation of money, as every man with his eyes open might have seen of late in the United States. But the principle is the same in all these cases. The United States was a good enough country to trade in, while giving this large volume of paper money an expanded circulation through banking,

as an agent in raising prices, but it was a poor country to pay money balances in, and a poor country for an emigrant to carry gold to, while it was a good country for emigrants, travelers, and other buyers, to take gold from, and buy elsewhere. Foreign countries did not send their gold to buy with, in the United States; they have indirectly however incurred some loss in consequence of the large stores of metal sent from the United States. This turned to a loss, or at least was partially balanced by loss, as always happens where metallic money is by any extraordinary cause, other than falling off in production, made to move from one country to another in large amounts: it changed the typical ratios of 2 to 3 and 3 to 2, by multiplying their members, by say five per cent. in Europe, to be followed by a corresponding fall, when and as the current is arrested and turns in the opposite direction. No gold was sent from Europe to make purchases: that would have been manifestly a losing business. Nevertheless this is very nearly what merchants will do with the silver they will send to the East. The difference will be, that the metal will be silver instead of gold, and instead of finding prices already advanced, they will carry up prices in silver in their character of buyers, with the silver they will themselves carry. Their silver will cost them seven and a half per cent. more than formerly, and under the illusion that they have a mono-gold standard they will raise prices in silver seven and a half per cent. while they are buying with their silver, thus raising prices at their own expense. But would they not have been required to give merchandise for their silver, even if Germany had stood still, or had she only introduced bi-metalism? Undoubtedly, but without any loss. The actual loss arises from the fact, or law, that a given weight of gold will not establish a mono-gold standard: standard in that sense is an illusion of the senses or of the understanding, or both, quite as much as was the old Ptolemaic theory. The loss arises precisely because gold is not a standard, and its future fall in bullion value back to old rates will demonstrate that it is not. Silver

has fallen and gold risen in bullion value, each seven and a half per cent., without in any important degree affecting prices in the countries using silver or gold as yet: the fall of silver has caused a fall in the money exchanges against mono-silver countries, but has not yet reached the exchanges of merchandise. When it reaches the latter, as it must, and has converted the bullion loss of silver into a direct loss of silver in mercantile exchanges, the latter loss will immediately cause an equal rise in the bullion value of silver, while on the other hand the bullion rise of gold will turn to a direct rise of gold in mercantile exchanges, and a resulting and equal fall in bullion value. But why should gold fall in bullion value? Because bullion value is the complement of mercantile value, and one must balance the other. This is the proximate or immediate cause. The remote or first cause is, that purchasing power is one grand total and never changes, either as a whole or parts of a whole: the only change possible is in its distribution through each of the units which constitute the total. If the units of gold and silver were distributed alike and together everywhere through commerce at 15½ and 1, a gain of silver to an extent which would carry into circulation seven and a half per cent. more units in reference to commerce than formerly, would merely increase the total number of all metallic units in proportion; it would be an increase in number of *all* metallic units, gold as well as silver, and would amount to the same thing as if an equal number of gold units had been distributed. The principle would be the same inversely if the units of either metal should fall short or lose seven and a half per cent. There would be no change in bullion values and there would be no rise in prices on the one hand and no fall in prices on the other hand, to be compensated or complemented by a rise and fall of the two kinds of bullion in directions precisely opposite to those of their exchanges with commodities. Loss in purchasing power on the part of the silver unit, unless that loss can be shared with the gold unit, must be balanced by an equal gain in its bullion value restored to old rates,

while gain in purchasing power on the part of the gold unit, unless it can distribute that gain equally with the silver unit, must be balanced by an equal loss in its bullion exchange with the silver unit. The gold unit being the least in weight is expressed by unity or one, and all changes of bullion values are therefore stated in silver. It will require seven and a half per cent. more silver to make purchases in mono-silver, and seven and a half per cent. less gold to make purchases in mono-gold countries than before, but all the excess of silver will be carried into general circulation by buyers in mono-silver countries, while buyers will have carried into general circulation in mono-gold countries less gold by seven and a half per cent. than formerly. The (negative) fall in the purchasing power of the silver unit will therefore cause a (positive) rise of its bullion, while the (positive) rise in the purchasing power of the gold unit will cause a (negative) fall of its bullion, these values having inverse proportion to each other. The positive rise of silver in bullion value seven and a half per cent., carried to the gold or negative side, shows an indirect fall of gold in mono-silver countries to the amount of fifteen per cent., while the negative fall of gold in bullion value of seven and a half per cent., carried to the silver or positive side, shows on the contrary an indirect rise of fifteen per cent. on the part of silver in mono-gold countries. Bullion values may therefore be represented by the following equation, assuming the fall of silver to be fifteen per cent.: $1g = 15\frac{1}{2}s + \frac{15\frac{1}{2}s}{100}$; but when the old ratio of $1g$ to $15\frac{1}{2}s$ is restored, the equation will change back to $1g = 15\frac{1}{2}s$. This will be the bullion equation of gold and silver in all countries: it will be a rise of silver of fifteen per cent., and a fall of gold of fifteen per cent. But silver cannot be used directly in mono-gold, and gold cannot be used directly in mono-silver countries: the rise of silver and the fall of gold come therefore indirectly through the bullion or barter exchange. Hence it is certain that money has no mercantile value: what is called mercantile or commodity value in metallic or any other money, is in re-

ality commodity value, expressed in terms of money as the medium of exchange; and a given sum in money may be called commodity value generalized, or stated in the most abstract form possible. Adam Smith's assertion that the value of all money lies in what it procures, is, as before shown, but another form of stating my conclusion, that money has no value in itself. But has money then no value? Surely it has, and value of the highest possible kind, because it calls in the hands of its owners for any commodities on sale. Convertibility is essential, not in order to convert that which is not money into that which is money, but an inferior and local money into a superior and commercial world's money.

Money cannot by any possibility possess value as a commodity or as merchandise, because it is not subject to the law of demand and supply, and quantity of metal cannot add to, nor can loss of metal take from, its value; that is to say, it cannot change the quantity of commodities money will procure. Money in general is therefore not gold or silver by weight, but general mercantile or commodity value expressed in terms of money by units of weight, that is to say, expressed in terms of units of weight of one or both of the two commodities, gold and silver, or units of paper, while money in particular or in actual use is value of commodities bought, expressed in the terms of the particular units of money which the buyer delivers and the seller receives as the equivalent of goods. Money value in gold and silver is the most perfect form of value conceivable, because it is the universal medium of the world by which all commodities are obtained; but because it is really commodity value in general expressed in terms of one or more commodities, the latter cease to be, as money, commodities themselves; they become valuing commodities only, and are no longer (in this character) valued themselves, because they are not wanted by consumers to consume, but only to value and stand as equivalents for those commodities which consumers need in order to consume. What may be the particular weight or meas-

ure of a commodity intended for consumption is in general unimportant, but it is important to establish some particular standards of weight and measure, and adhere to them: in fact it is indispensable. The like is true of metallic money, and it is impossible to change the standards either of commodities or of money, by adding quantity to the standard, as commodities or metallic money become cheaper, or by taking quantity from the standard, as commodities or money become dearer. If there were no money, and commodities were bartered by unit standards of weight and measure, manufacturers and merchants could never accumulate any overstock (as I have already shown) if they were required to put their overstock in market at the very moment it began to make its appearance, and consumers were permitted to take it, because they would pay nothing for the excess thus given them. But as this is impossible, manufacturers and merchants might, even under barter, accumulate some overstock, because they would not be thus forced, in point of fact, to put their surplus on the market, nor would consumers be permitted to take it. Nevertheless the demonstration of loss would be made very soon, and they would not only be induced to stop borrowing and therefore producing to excess if inclined, but the lenders would refuse to lend: they would be able in this manner to produce some excess, but if they were forced to put all their overstock on the market as fast as it appeared, there could be no excess or glut at all. But the fact is precisely the contrary with the commodities gold and silver, when employed as money or a universal medium of exchange. When gold falls in value, the very fact that it has fallen carries the excess into the market, and if gold were still commodity (a given quantity of metal merely), this fact alone would demonstrate loss in gold only, whereas it demonstrates no fall in gold as commodity, but on the contrary a general rise in all commodities. When this rise takes place, not by a general, gradual, and permanent increase of metallic units (silver for instance in mono-silver countries), but by a rapid rise precisely like that just stated in princi-

ple, except that while that is slow, this is rapid, while that is permanent in consequence of a permanent increase of metallic silver units in the hands of all holders, this is temporary in consequence of increasing loans and increasing production, the principle involved is still the same. If production were equally and everywhere stimulated and caused increased consumption everywhere in proportion, it would merely, without raising prices, put more units of money in circulation, consumption keeping even pace with production; but it never stops at that limit. Production gains upon consumption, and the money put in circulation is therefore not in proportion to the commerce of consumption, but in proportion to production through loans and payments for labor, raw material, and, as far as the excess is actually distributed to merchants, profits.

The excess is actual loss more or less to some from the start, and to demonstrate that it is actual loss from the start I offer this case as a type of others. When reaction from such a crisis as we are now recovering from has fairly set in, and production is gaining upon consumption, or in other words commerce, a manufacturer who has on hand a surplus undisposed of to-day, sells it to-morrow to a merchant who borrows from a bank, in order to pay him. If this surplus remained always in the manufacturer's hands, it would be so much loss to him, but by the sale he distributes that loss, and the merchant who buys, as far as he sells the whole or a part of the surplus, distributes that loss not only to the precise extent that production has advanced prices in excess of the amount by which consumption has carried prices down, but as much more. As long as this distribution is going on, the producers who make the distribution are making more and perhaps a great deal more than they are losing: they are producing, it is true, at higher and still higher prices continually, because wages, cost of raw material, and expenses of living are continually increasing. But when the crisis arrives, the manufacturer may have $50,000 of overstock remaining unsold, and his case will then offer some

analogy to that of a buyer who will take silver to mono-silver countries after silver has fallen relatively in exchange for commodities in mono-silver countries fifteen per cent., risen indirectly in exchange for commodities in mono-gold countries fifteen per cent., and directly in bullion exchange fifteen per cent. The $50,000 overstock of the producer was paid for by him on a rising market, or a market which had reached the maximum of rising prices; his labor, raw material, and living cost high prices, and he has the overstock to show for them, but he can no longer distribute overstock in such a manner, that while losing in his character of producer through rising prices, he will gain in his character of seller more than enough to make up the loss distributed among buyers. He must therefore sell to consumers, in the market of low prices, his $50,000 overstock which he bought indirectly in the shape of wages, raw material, and commodities for his own consumption, in the market of high prices.

It will be the same with the buyer who takes silver to mono-silver countries and returns with goods, except that he (if a merchant) acts in a representative character, and consumers in mono-gold countries, of the goods he buys with the silver in mono-silver countries, will bear part of the loss.

SPECIAL APPLICATION OF THE PRINCIPLES DEMONSTRATED.

To apply the facts thus demonstrated more particularly to mono-metalism, bi-metalism, and standard: the mono-metalists and bi-metalists have hitherto discussed the question of standard as a matter of debate in respect to policy only. They have all taken it for granted, and a proposition not to be disputed, that such a thing as standard of one metal to the exclusion of the other is not only possible but actual; and that it may be mono-metallic with silver or gold on the one hand, or bi-metallic with silver and gold on the other hand. The late joint commission sitting at Paris did not raise the

question, whether there be or be not such a thing as standard, but took it for granted that there is, — the American commissioners favoring the bi-metallic, and of the others, the greater part either favoring a mono-gold standard or deeming any action undesirable for the present. The only important fact in this examination is, that the result was non-action, and that none of the very able writers and thinkers upon that commission thought of disputing or denying, as I do, the existence of such a thing as mono-metallic or bi-metallic standard, either potentially or actually. They took for granted, and never thought of disputing, the proposition of M. J. B. Say in his Political Economy, to which I have referred. All took it for granted that with gold mono-metalism, a given weight of gold is the standard, and that with gold and silver bi-metalism, a given weight of gold on the one hand and of silver on the other constitutes the bi-metallic standard; and further, that any nation can adopt the one or the other, the majority (exclusive of the American commissioners) deeming, apparently, the continued free coinage of silver important, provided it were maintained by nations other than their own.

The demand for metallic commodities in the shape of plate, etc., which is satisfied only by selling commodities for metallic units of money, and then manufacturing the metal into commodities — which demand has its limits — was thus, as always heretofore, confounded with an imaginary demand for the metallic monetary unit, in the character of a specific quantity of metal.

When the gold and silver, or bi-metallic standard existed in France and other Latin nations, and the mono-silver standard in Germany, 1 gold being equal on the average to $15\frac{1}{2}$ silver, if gold was produced in excess, silver rose and gold fell to the same extent, or what is the same thing, gold fell as much as silver rose, — rise and fall being mutual equivalents.

A gain in gold was compensated by coining more gold, and a gain in silver by coining relatively more silver, while at the same time any extraordinary gain in one or the other metal was balanced by the greater demand for commodities manufactured out of that metal.

Coinage of silver at 16, instead of $15\frac{1}{2}$, of course made it profitable to export silver coin from a bi-metallic country like the United States, and take gold in exchange. Hence the necessity of adhering to one ratio and changing it only by international consent, slowly and everywhere at the same time; and hence also the great propriety, if not necessity, of an international coinage.

England of her own free will, the United States unintentionally, Germany influenced possibly by a desire to rid herself of her debased silver coinage, and the nations of the Latin Union by compulsion and in self-defense, have adopted the "gold standard." The demand for silver as money has not fallen off in consequence, because there is no such thing as demand for it in that character, but the demand for commodities manufactured out of silver has probably increased relatively and will increase more, as the expansion of production through loans causes an expansion of all money units in circulation, and thus cheapens all bullion in reference to commodities.

The result of attempting to establish a mono-gold standard in Germany will therefore be to establish on the contrary a mono-silver standard, as far as a given weight of either metal can in any sense whatever be called a standard, because the effect will be, by raising the gold unit in purchasing power seven and a half per cent., to do the same for the silver unit indirectly through the bullion exchanges, while the fall of the gold unit directly in bullion exchange will add indirectly seven and a half per cent. more purchasing power to the silver unit in mono-gold countries, the opposite result occurring to the gold unit in mono-silver countries. All the loss and inconvenience which will result, can be borne with: it will be spread over and divided with all commerce; it will come gradually and slowly, and can only directly affect undertakings of long date. Moreover if general production and commerce should advance and be maintained in mono-silver countries and fall off in mono-gold countries, or should the production (by mining) of silver fall

off, and that of gold rise in the proportion of seven and a half per cent., no change will appear. On the whole, the commercial world can get along very well, although with some inconvenience, and the indirect loss, duly distributed through commerce, will not be great to buyers and sellers, unless mono-gold metalism shall progress still further. But while the act of Germany will be productive of some loss and considerable derangement of the "exchanges," it will be productive of great benefit, if it sets scientists thinking, and forces them into the right channel of thought upon the very complex subject of money, which is now supposed to be very simple. Possibly they never will arrive at correct opinions until impelled by some extraordinary movement like that of Germany, unless commercial and banking crises, recurring with increased severity, shall at last force all men to conclude that production (and as a necessary corollary, production on credit) by the aid of loans, in money and not in credit, is the real cause; and that all forms of money are substantially the same, because they are all in reality but labor and commodity values, expressed in terms of monetary units which stand also as their equivalents, the use of any commodity to furnish the units necessarily causing it to cease from that moment to be any longer a commodity or a standard, in any other sense than that of a unit of weight or measure; and hence as to the units of all commodities, an abstract unit. If the action of Germany tends to carry the minds of scientists into this line of thought, it will, in my opinion, while productive of some injury, be productive of much greater benefit. If prices rise seven and a half per cent. in mono-silver, and fall seven and a half per cent. in mono-gold countries, without a corresponding change in metallic product, while with the same quantity of metal, by decreasing the silver units in number seven and a half per cent. through a seven and a half per cent. gain in weight, and by increasing the gold units seven and a half per cent. in number through a seven and a half per cent. loss of weight (were recoinage possible), there would be no change of prices at all,

it may at last be seen that it is not quantity (of metal) as in case of commodities that determines prices, but the amount of commodities exchanged through commerce, and the number and circulation of all monetary units. This proposition firmly established, in view of the resulting phenomena, it will clearly follow that a standard weight of metal can by no possibility be a measure of values, because it never rises or falls without distributing its rise and fall equally, while at the same time it never rises or falls of itself, and hence its rise and fall is merely the rise and fall of labor, raw material, merchandise, commodities, and capital, — in short, of everything reckoned in its units. Hence the proper practical line of monetary regulation is to regulate *all metallic circulation* throughout the world by bringing together the two metallic units, — silver and gold, — and allowing the variations in one metal to be balanced by the opposite variations of the other; and to regulate the use of metallic money, and through that of all other money, by limiting all circulation and hence all production through a reserve of silver or gold, or both, not varying with loans, but causing all bank loans to vary only with itself, within short instead of long periods.

Gold can never furnish a standard as money, for the exact reason that it could furnish a standard, were it not money, but only commodity. Were it commodity only, the unit (and multiples or divisions of units) would never require any change, because the whole mass of gold would then control the unit weights of the mass, instead of the latter the former, as they necessarily must do, so long as gold continues to be money. In other words, if gold were commodity instead of money, no matter how much its mass might increase through production, no more units of the mass could be sold to consumers than they were able to pay for and take out of the market, — consumption thus far controlling production. But with gold as money, the case is exactly the reverse, because the greater the production of gold relatively to commodities actually sold to consumers, while standard weight of the gold unit continues the

same, so much more metal and consequently units of metal go into the market of consumers to make the necessary exchanges, and prices rise. Standard is an impossibility under such conditions. But is there no monetary standard in any sense whatever? Undoubtedly, in an abstract or general sense we may make or rather suppose a standard. The only standard to measure values of commodities is the abstract unit, which would become a practical reality if, as fast as all commodities rise in gold, say twenty-five per cent., so that five sovereigns in gold are required to buy as much as four sovereigns would buy before the rise, the five sovereigns could change to four sovereigns, and all sovereigns in all purchases contract in like manner, expanding to their former number as prices return to normal figures. Quantity of metal would in this way determine the number of monetary units and keep them steady in proportion to commodities, whether commodities continued the same or not, because as fast as gold gained upon units of commodities, it would lose its own units. If commodities on the other hand should gain upon gold, then the standard units of the latter would lose metal, and, by losing it, gain units in proportion to the gain of standard units of commodities. Standard in a monetary sense would then and thus become a practical reality, because the mass of gold would then increase its standard units by reducing weight as standard units of commodities increased, and decrease its units by adding weight as standard units of commodities decreased. This however is impossible, and hence the only standard conceivable is the abstract unit which may be assumed to remain always and ever the same, while its mass is changing from time to time. Standard therefore, in the only sense in which standard can be supposed, is an unvarying abstract unit resulting from a mass constantly varying in the proportions stated. Such a variation of mass is always occurring, but a proportional inverse variation of monetary units is impossible, and therefore the abstract monetary units of the mass, through their variations direct to the mass, control the value

of the mass, instead of the latter through its bullion controlling the value of those units. In other words, the standard units of gold, in which the values of all standard units of commodities are reckoned, vary in valuing power with their mass, and not in direct opposition to it, while the standard units of commodities, whose value is measured by and stated in gold units, naturally vary in the opposite direction, because although when their total mass increases and loses value, the standard units consumed tend to grow less and less valuable continually, they do not throw their surplus units on the market as long as they can force gold to throw its surplus on the market through bank loans; but when through a banking crisis, they are forced to throw their surplus units on the market, they withdraw from the market, inversely, the surplus units of gold. Increase of mass on the part of gold is therefore in direct proportion to increase in number of its own standard units in circulation, while its value stated in standard units of commodities is inverse to its value stated in its own units. The value of standard units of commodities exchanged, or in other words indirectly bartered for each other through the agency of gold and consumed (which is commerce itself), is direct if we eliminate the intervening monetary exchange, but inverse or in direct opposition to the value of the standard units of the medium (gold) through which they are thus bartered. The values of standard units of commodities actually exchanged through the medium of money are direct to each other, while the values of standard units of the medium (gold) through which they are exchanged are inverse to the values of the commodities. Mono-gold, mono-silver, or bi-metallic standards, are therefore out of the question. The assumption of, or belief in, the existence of such a standard, has arisen from the difficulty of a mental conception of money as an abstract form of value, the very complex nature of it, and the belief well stated by M. Say, which is, as it were, forced like the old Ptolemaic system upon the eyes of the understanding, through the eyes of ordinary sight. The difficulty lies in perceiving how

a commodity — an article of merchandise — can cease to be such when it is adopted to meet the necessities of mankind as the medium through which all commodities, labor, services, and capital are to be valued and exchanged. It is therefore taken for granted, that because a standard unit of platinum or other metal is never out of harmony with the whole mass of platinum in point of value and valuing power, the same would necessarily be true, if, like gold, it were in use as money; and hence it must be true of gold. The inference therefore is, that Germany may adopt a mono-gold standard of gold, and that this standard will be a standard unit of weight and value, in the same sense as if gold were not money, or rather it is taken for granted that gold can have money or abstract value and commodity value at the same time; or to speak more fully and with more accuracy, that gold can be the medium in which commodity value is expressed and generalized when in the hands of holders and expressed and particularized when holders become buyers, and at the same time have mercantile value as a commodity. This is a contradiction in terms, and yet both propositions, contradictory as they are, are tacitly assumed to be true when Germany or any other nation attempts to establish a mono-gold, a mono-silver, or a bi-metallic standard. Both propositions are also tacitly assumed to be true, by writers who assert that a bank deals in a commodity when it pays out gold, and in credit or debt, when it actually pays out nothing at all and transfers are made by checks only. The theory is, that the comparatively small amount of metal paid out is a commodity, while as to other transactions the dealing is in what is called credit or debt; that the commodity gold thus paid out is subject to the law of demand and supply, and does not vary more than any other commodity; and that the credit varies no more than gold. The fact in opposition to theory is, that if the credits dealt in belong to depositors, they can by no possibility deal in what belongs to the bank, but only in what belongs to themselves, or in other words, the gold and silver or bank notes

originally deposited; but if the bank deals in its own debt, it is in reality a bank of issue. Whether it be called one or the other is a question of words only, because it is only a question of taking gold out of a reserve and putting it back, or not taking it out at all: the important fact is that if the bank has, like the English banks, gold only, or at least gold for the most part in its reserve — whether in its own vaults or those of the Bank of England is immaterial — if we assume that it "deals" always in gold only, or always in credits only, or sometimes in one and sometimes in the other, and sometimes in debt, the valuing power of gold is constantly changing, through an increased use of its units, or through an increased use of the units of credit or debt, by whatever name we may choose to call them, because whether we call it gold or credit, prices of commodities reckoned in the units of money are constantly varying upwards, then downwards, to remain comparatively steady for a time, only to vary upwards again in due season. Credit units or debt units therefore, if we assume these to pass in exchanges instead of gold, vary without reference to the units of gold in banking reserve, but if we assume gold to pass, the variation through loans which naturally attaches to the gold or silver or any other unit of a commodity employed as money, is increased by the additional circulation which is given it through banking. Whether we assume the gold unit to be always paid out and to get back to the reserve again, sometimes a little earlier and sometimes a little later, or on the other hand to be paid out only at the rate of two per cent. to ninety-eight per cent. of credit, if we prefer that opinion, the volume of loans determines the value of the gold unit. What is the remedy? I answer, to confine the gold unit at some point or other, to its natural variation (through commerce), instead of increasing that variation in the manner shown; to limit its variation in other words as nearly as possible, by keeping its units and the units of "credit" in as even and unvarying a ratio as possible, allowing variation to extend only to the shortest possible periods. Upon the

same principle, mono-metalism should be abandoned, and bi-metalism introduced gradually, as far as possible. But why should bi-metalism be introduced? If two metals can be used together, cannot one be used alone? Undoubtedly it can, and if there were but one metal in use everywhere, there would be no necessity for adjusting relative standard weights of the units. Nevertheless the same difficulties would present themselves with one metal as now do with both metals, in respect to variations between the standard units of the whole metallic mass of both metals and the mass itself, and between those units and the standard units of commodities, but no such result could follow, as must follow from Germany's abandonment of silver for gold mono-metalism.

Why then, it may be again asked, cannot gold mono-metalism be adopted without injury, if the variations just referred to, attach to both metals when used together? This kind of variation can be no worse with gold alone, it may be said, than with gold and silver together.

That is all true, I answer, but there is a compensation for all this variation in another direction working inversely to, and therefore compensating or balancing it, where the circulation of gold and silver, both in commerce and in banking reserve, is left to its natural course. That compensation is the vast accumulation of the metallic standard units of gold and silver throughout the world. If we assume the totals of the units of both metals to be equal to ten thousand millions of dollars — one half gold and one half silver — the effect of any increase or decrease of metallic product of either kind must be small, and therefore, as universal commerce changes slowly as a whole, prices of merchandise stated in gold and silver can vary but little, if the two metals are left together, and not separated through the illusion of standard; and further, if their circulation is not artificially interfered with, through banking and government issues of paper money. As banking ought not to be and cannot be abandoned, the true theory of money, founded upon fact and not upon illusion, demands reg-

ulation and limitation of the use of monetary units of all kinds; and as governments, or banks for them, will sometimes issue irredeemable paper money, the true theory of money further demands, that it ought not to exceed the metal or convertible paper it displaces, as Adam Smith contended more than one hundred years ago. If the two metals are left together, all variations in one are compensated through the other except as to general rise and general fall throughout the world, whereas if they are separated, all the variations are doubled in effect. If they are kept together, the metallic variation of a mass of both metals amounting to ten thousand millions of dollars, and the variations of the units, will be inversely only one half that of either mass, if separated from the other.

If kept together, general rise and fall will be equal everywhere; if separated, the rise will all be in one quarter, and the fall will all be in another quarter. Hence the objective point of perfection in the use of the metals of both kinds, for the whole commercial world, is to keep them together, while the objective point of perfection locally is to limit and control the circulation of all money in the manner explained.

All money falls in value as its circulation increases and rises as it decreases, although the whole number of its units continues the same, not because there is in the channels of actual commerce, where goods are indirectly exchanged through money, an "increased rapidity of circulation" as the current phrase is, — for that is as absurd as to speak of an increased rapidity of consumption, or in another word, commerce, — but because money is lent and expended in paying the wages of labor and the profits of capital, which are not refunded but on the contrary actually increased, by sales to merchants and others who buy the products of the labor and capital and hold them because they cannot sell, or if they can, certainly not without great loss, for the reason that the products at cost are relatively in excess. It is the increased circulation of borrowed money to pay these wages and profits, and other wages and profits growing

out of them, which constitutes what goes by the name of increased rapidity of circulation; for the money thus paid out goes from the market of producers who have not yet sold their products to consumers, into the market of consumers of other products, because laborers and capitalists must and will live by spending, in the market of consumers, the money they have thus acquired in the market of producers, whether their own products arrive there or not. This, I repeat, is what generally goes by the name of "increased rapidity of circulation." All these results occur because money has no value as a commodity and never changes value as a whole, while prices rise precisely according to the amount or number of the units in actual circulation, as compared with standard units of goods actually consumed: it is a spoliation which sometimes ruins the innocent spoliators themselves, and is only made possible by the phantom of rising prices in such a mask, that its real character is not discovered. The origin of it is wages paid labor and profits paid capital, — *not absolutely* in excess, of course, but in great excess as compared with the actual sales to consumers made by the buyers who, by the aid of money borrowed from banks, buy the excess, and in buying, pay those wages and profits. The wages and profits thus advanced in the shape of money borrowed from banks are largely expended by those who receive them in the market of consumers, where, in order to live, they buy those absolute and other necessaries which they do not produce themselves. Here lies the first cause of what are called banking, commercial, and industrial crises, which would be light and comparatively short, were not the surplus of wages and profits (thus received in excess and not actually expended by those who have received them, in living) reinvested in further production of the same kind to some extent, but very largely in mortgages on city, town, and country real estate, in railroad, municipal, and other indebtedness, and in the purchase of real estate and other investments. The original overstock is not only not worth enough to support all these expenditures, but upon the principles

I have demonstrated in respect to the foundation of values, it is approximately worth no more when added to the stock consumers actually take, than that stock alone without any overstock. Hence this "rapidity of circulation" is really a credit circulation of money, and the only method of setting bounds to it is the one I have pointed out. This will never be done until the true science of money is established and taught. The demand for loans, so called, is not a demand for money as such. Demand and supply have no direct application to money: were it otherwise, money would possess value in and of itself, instead of only a generalized value in all commodities. Nevertheless in order to illustrate the difference between the generalized or abstract value of metallic and therefore of all money, and the particular commodity value the standard units of weight of metallic money would possess if not money, I will admit or assume that there is a demand for money, because sellers demand all the money they can get even at the cost of rising prices, through which they may lose as buyers all or more than they can gain as sellers. In this sense demand in mono-silver countries will absorb all the silver Germany throws upon the market, and all the future product of silver Germany and the different nations of the world will not take, even at the cost of raising prices seven and one half per cent. in mono-silver countries. Demand and supply will thus keep even pace, demand asking all it can get, and supply being able to furnish only to the extent of a surplus of seven and one half per cent. Demand and supply therefore, if imputed to metallic money, mean the exact opposite of demand and supply as we actually with the mind's eye see them in operation in respect to commodities. Hence, because demand in the latter sense alone gives mercantile value to anything, and alone causes what is called a commodity to have any existence at all, it is certain that money has no commodity value, unless a thing or quality may be said to exist and not to exist at the same time. The value of money is therefore necessarily general and abstract for the purpose of measuring in arith-

metical units (and in the case of metallic money, units of weight) the values of all standard units of weight and measure, of commodities which consumers demand, while monetary units are thus the generalized equivalents of all commodities and capital, which sellers will sell and buyers will buy. When economists clearly perceive and teach this as monetary science, they will then stop contradicting themselves, and will understand *why* metallic money is the only perfect money in the world. They will then perceive that the perfection of metallic money lies in the vast accumulation and even distribution of its units as a whole by means of commerce, and that in consequence of this accumulation and distribution which have cost commodities, steady prices of commodities, which no increase or decrease of metallic production can seriously disturb, ought necessarily to result, as long as the distribution is not disturbed by what is called monometalism, war, violence, military fines, increased "rapidity of circulation" of the metallic or any other monetary unit, and issues of government or bank paper money, in excess (as Adam Smith puts it) of the volume of the metallic money they displace.

If a gold sovereign or eagle received by a seller of wheat were sent on a journey round the world to make its way through all the money exchanges on its passage, by conversion and reconversion, until returned to the place of starting, it would probably come back with considerable loss or considerable gain. If on the other hand a buyer of wheat were to start the value of the coin in the shape of wheat instead of the coin, the wheat would probably come back without change except in consequence of changes in demand and supply as commodity, it would meet with on the way, because variations in prices would correct each other, unless the last variation in one direction remained without compensation by variations in an opposite direction. The danger of uncompensated variation is increased through monometalism, by making the bullion exchanges of the two metallic units move at cross purposes with, and in an exactly opposite direction from, their generalized commodity

value: loss of generalized-commodity value being the exact complement of gain in bullion exchange value. The metallic unit of either metal, having always generalized-commodity value, costs commodities to second holders, and is always worth commodities to first holders who mine for it: if the units are separated in commerce, loss of generalized-commodity value by one is the complement and the exact equivalent of gain in generalized-commodity value by the other; and hence in the bullion exchange between the monetary units themselves, loss of generalized-commodity value is converted into an equal gain in bullion exchange, and gain of generalized-commodity value, into loss in bullion exchange. In no other way can *loss and gain* by metallic money in commodity-exchange value harmonize with *gain and loss* in bullion exchange value, although for all practical purposes the harmony of mono-metalism, when gained, is discord itself.

This is the abstract view of the generalized-commodity exchanges of gold and silver on the one hand and their bullion exchange on the other, by way of complementing the practical view already given, that rise in silver prices — coinage and commerce remaining the same — requires an increased supply of silver proportioned to the rise, and fall in gold prices — commerce remaining the same — requires a decreased supply of gold, proportioned to the fall. Hence a seller of American or English prints for gold who exchanges his gold for silver in order to ship to a port in a mono-silver country, and with the silver buy goods in that port, say tea, would lose fifteen per cent., in consequence of silver having risen through the bullion exchanges seven and one half per cent. inversely to its fall in generalized-commodity value in that port, and gold having fallen seven and one half per cent. through the same bullion exchanges, inversely to its rise in generalized-commodity value. This loss the seller could not and would not submit to if it all fell upon him, and he would ship no silver at all. In order then to ship silver as it must and will be shipped to the full extent of the surplus, the

loss must be apportioned among all shippers and thus disguised through the money exchanges. The loss will be made up out of profits on prints and all other goods shipped, and the profits on goods imported, as well by the shipper of silver as by the shipper of merchandise. Prices and profits will adjust themselves at last: there will be no loss in mono-gold countries to debtors, nor in mono-silver countries to creditors except on undertakings of long date, and loss and gain will on the whole be evenly distributed; and hence they will balance each other. If silver could take half the world's commerce and gold the other half; if the commerce of mono-gold countries would fall off and that of mono-silver countries gain, each seven and one half per cent.; if gold product — its commerce continuing the same — should gain, and silver product — its commerce continuing the same — lose seven and one half per cent., equilibrium between generalized-commodity or monetary values and values in bullion exchange would be maintained, but if neither of these *accidents* should occur, the bullion exchange rise and fall must be inverse to generalized-commodity rise and fall. The rise of prices in silver of seven and one half per cent., as I have called it agreeably to the popular theory, is not, according to the principles I have demonstrated, a real fall in silver: it is a generalized or abstract rise of all commodities and merchandise seven and one half per cent. in mono-silver countries, and a generalized or abstract fall of all commodities and merchandise in mono-gold countries. The fall is not in silver nor is the rise in gold: what is called the fall in silver is in reality a fall in the generalized-commodity value expressed by its unit — the increase of seven and one half per cent. in the number of silver units in proportion to commerce, being the exact complement of the fall of each unit in generalized-commodity value. The rise in number of all the units of silver is inverse to the fall of each unit in generalized-commodity value, and the fall is inverse to the rise.

In the bullion exchange between the two monetary units, the principle is the same: the loss or fall in

value by absorption through commerce of the excess of seven and one half per cent. on the part of silver units, which is now confined to and appears only in the bullion exchange, will be transferred to the abstract monetary units in commerce, and this will transpose gain and loss seven and one half per cent. in bullion exchange. Gold, which was formerly seven and one half per cent. in defect, for the very reason that silver was seven and one half per cent. in excess in the bullion exchange, and therefore rose seven and one half per cent. because silver fell seven and one half per cent., will fall back seven and one half per cent. to its old value in bullion exchange, because silver will have risen again (seven and one half per cent.) to its old value: the changes are thus all inverse to each other. These and all other inverse relations of the gold and silver commodity units to each other in the bullion exchange, of the generalized-commodity units of either metal to the other in purchases and sales, and of the units of either metal in bullion exchange to the generalized-commodity unit of either metal in other exchanges, mutually compensate each other when the two metals circulate together, because in that case neither of their units can gain or lose generalized-commodity value through gain or loss of commerce, without distributing that gain or loss equally to each of the units of the other metal, in exact proportion to the total number of its units.

In the bullion exchange, the unit of either metal has relations by weight only to the unit of the other metal: generalized-commodity value does not enter into this exchange at all. But when the monetary unit of either metal is paid by buyers to sellers in exchange for commodities, it becomes a generalized-commodity unit, having general commodity value inversely to the whole number of units paid. The true objective point of monetary science therefore is to balance every inverse proportion in the bullion as well as the generalized-commodity exchange, by using the generalized-commodity units of both metals together, and thus regulating the *volume* of all generalized-commodity units, whether of

paper or credit; and the *circulation* of all such units, whether metallic, paper, or credit, by *all the metallic generalized-commodity units of each metal*, as they would be distributed under bi-metalism, throughout the commercial world; not because bi-metalism is absolutely a desirable thing in and of itself by any means, but because both the metals having large and nearly equal accumulations in the shape of generalized-commodity units throughout the commercial world, bi-metalism is, under these conditions, essential.

The standard units of either metal are units of weight, having relations of number and value, by means of weight, to the units of the other metal, because for monetary purposes the units ought to be limited mathematically and they never can have any other relation as long as they are used as money in exchange for commodities: when they are used in commerce and in daily life in exchange for all commodities and all capital, their relation becomes one of numbers duly limited by weight, to the standard units of all commodities wanted by consumers, and to all labor and capital. If the limitation of the use of the units of metallic money through loans were as perfect as the limitation of all the units by weight of metal, banking crises would never make their appearance under "convertibility," but because this is not the case, limitation must be carried into the use or circulation of the metallic unit by means of a duly proportioned metallic reserve.

EFFECT OF THE ADOPTION OF THE ABSTRACT-UNIT THEORY OF MONEY IN SOLVING THE QUESTIONS OF STANDARD, BANK RESERVE, AND PAPER MONEY, AND THEIR RELATION TO PRODUCTION AND COMMERCE.

When the theory of money which I maintain is adopted, as in process of time it will be by scientists, and through them by bankers, there will be less difficulty in understanding the subjects of mono-metalism, bi-metalism, standard, banking reserve, government and bank overissues of paper money, overproduction, and

high and low prices occurring through comparatively long continued changes in the distribution of the metallic units of silver and gold. It will be seen that loss of purchasing power (seven and one half per cent. for instance) in the silver unit is the transfer of an equal gain of purchasing power to the gold unit, being the complement of a seven and one half per cent. gain in the number of silver units, and a seven and one half per cent. loss in that of gold units, passing from the hands of buyers to those of sellers, in proportion to the units of commodities which sellers will give buyers in exchange for the units of silver on the one hand, and of gold on the other. In contrast with this permanent change in the number of metallic units in proportion to units of commodities which takes place equally in the hands of all buyers, while units of commodities given in exchange (commerce) still continue the same, it will be more readily seen that if the latter should increase permanently seven and one half per cent. in proportion to units of silver and decrease in like manner in proportion to units of gold, the seven and one half per cent. gain in the silver units will be complemented by an equal gain in units of commodities (commerce), and the seven and one half per cent. loss in gold units, by a corresponding loss in units of commodities. Having arrived at this point, the last and most difficult and complex of all the questions growing out of natural and unavoidable differences in the circumstances and the ability and energy of individuals, and the artificial exaggeration of these through the use of money, may be attempted, with fair prospect of a solution which can at least be understood. The difficulty and complexity arise from the great difference in the inclination and power, as well as the opportunity, of individuals to create and to save capital. This difference is the origin of all accumulation, and accumulation is the immediate cause of all progress and development. In proportion to the increase of this difference, is the difficulty and the complexity of the question. If accumulated capital is the operative original cause of progress, in what

manner can, and in what manner does it operate? Surely in one or the other of two modes only: 1st, through the owner of the accumulation acting in person the part of a producer and employing and paying labor, and, 2d, representatively, through some other person, who borrows of him and does the same thing in his place. If there were no units of money, but units of commodities and capital only, the owner of the accumulation would make his loans only in the latter shape, and there would be no units of money to complicate and disguise the real facts. There would be some variations, however, in loans and in production, because if production by the aid of loans went so far as to cause a surplus of some commodities in the hands of any producers, produced by them through the aid of the loans, there would be a crisis and a partial suspension of production in that quarter until producers of other things wanted the surplus, which would then indeed cease to be surplus: the surplus would be merely a temporary glut. Now let a thousand owners of similar accumulations put them all in one stock wherever the commodities may be, whether in one hundred or one thousand warehouses, and loan on joint account in proportion to capital, and they can perhaps increase their loans twenty-five, and possibly thirty per cent., and precisely in that ratio they will increase the danger of a surplus. Nevertheless in either case the crisis must be short, for reasons which I will soon give, but still the crisis in the latter case (admitting it could occur) would be much worse than in the former, not merely because longer, but because, being longer, it necessarily comes at longer intervals, and for that reason not only increases the danger of bankruptcies, but adds to the natural inequalities or differences in the accumulations of individual capitalists, an artificial increase of those inequalities or differences, thus making production more uncertain and hazardous than it was before. The natural remedy, so to speak, while still retaining the consolidated system, would be for the capitalists who lent and the producers who borrowed, to fix a *certain* point where loans out of

the consolidated reserve should stop, never allowing them to go below that point as a minimum; and thus, while a considerable volume of extra loans would always take place by means of the consolidation, and production would thus be permanently stimulated, the stimulus would be regular and invariable.[1] This would be the natural remedy, should overstock tend to accumulate in this manner. It would not, however, and I will now give the reasons promised above. The reasons are that an over-produced commodity naturally falls in price, or in other words value reckoned in those commodities with which it seeks an exchange, exactly in proportion to the over-production, if it is brought into the market, because the consumers who buy it are themselves producers, and their products are precisely what the producers of the over-produced commodities and their laborers have borrowed and consumed, or, possibly, consumed without borrowing, because they owned them. In either case the units of over-produced commodities have caused the consumption of units of commodities not over-produced, to an amount equaling their own. The over-production, therefore, is not merely over-production above average, as it would be, had not the producers and their workmen been compelled to consume the commodities of other producers while they were creating the overstock, but it is double: in other words, to find the actual over-production, and therefore fall in value of its product, we must multiply over-production above average and fall in value below average by two. If the borrowers had never produced anything by the aid of their borrowed commodities, then commodities of the kind borrowed would be everywhere

[1] A reserve of metallic units kept in due proportion to all loans, whether made in what is called bank credit, bank or government notes, gold, or silver, is what sound science demands. If bank notes were duly limited by gold and silver, then a reserve of bank notes, kept by a deposit loan bank in due proportion, would itself be indirectly limited by the metallic reserve against notes. Again, a metallic reserve kept in due proportion in all deposit loan banks would indirectly limit the issue of bank notes. The most perfect limitation, however, would be furnished by a reserve kept in due proportion against bank debt of both kinds, — debt by note, and debt by book.

reduced in equal proportion, and the fall of prices would not be doubled. In other words, were a producer, in the absence of the monetary unit, to borrow instead units of commodities only, as he would be compelled to do if he borrowed at all, and produced of his own commodity twenty-five per cent. in excess, he would, if he consumed an equal value of other commodities while doing so, reduce or contract the units of those commodities in the market of consumers twenty-five per cent., and by diminishing their supply twenty-five per cent., demand continuing the same, would raise their price twenty-five per cent. as reckoned in his own commodity, without regard to the over-production on his part, while his own over-production of twenty-five per cent. would cause a fall of twenty-five per cent. more in his own products reckoned in the products consumed, thus making rise and fall which are complements of each other and therefore to be added together, a loss by fall of prices of fifty per cent., while the unproductive consumer raised the price of the kind of articles he consumed without producing anything only twenty-five per cent. Great commercial disturbances would arise in the former, exactly in proportion to the energy of production, and comparatively small in the latter. Producers would find, under such circumstances, the demonstration of loss through over-production so complete and so short, that they could not possibly misunderstand it, because each one per cent. of over-production would naturally demonstrate a loss of two per cent. if their products were all forced into the market of consumers. While therefore mere unproductive consumption arising from loans made in commodities, in a state of barter, raises prices of the articles unproductively consumed, productive consumption whose products are not all in demand by consumers at cost, and are therefore over-produced, not only raises the price of the articles borrowed, by the cost of production reckoned in the articles borrowed and consumed, but at the same time carries down the price of the over-produced articles, as much as it raises the price of the articles

borrowed and consumed. Therefore inasmuch as the producer cannot afford to sell his product, notwithstanding its over-production, at less than its cost in products like those consumed, and the producers of the latter are unable to take any more of his product at that price in exchange for their own, than they have already taken, his whole product, including the over-production, is worth less than it would have been without the over-production, except so far as he can keep it out of market by extending or renewing his own loans, or selling to some other producer, who can pay him by borrowing, and stopping further production until other producing consumers have the ability to take the excess and, without borrowing, pay him cost for it. Over-production, even if possible in a state of barter, would be arrested, therefore, at so early a stage, that it would not in fact be over-production. This is certain enough: the important fact, therefore, to be noticed particularly, is the natural loss of two per cent. for every one per cent. of over-production, which can be avoided, not merely by borrowing once for all, but by borrowing repeatedly, renewing loans, or selling to another producer who borrows. Another important fact, perhaps the most important of all, is, that even while the producer, if he has over-produced twenty-five per cent., keeps the overstock out of the market by loans, he has nevertheless raised the price of products, like those he has consumed, twenty-five per cent. above their natural level as well as the natural level of his own products, even without any over-production. Therefore where money is in use as an intermediary in exchanges, this loss, be it more or less, ought to appear as fast as over-production accumulates its overstock, and always would do so, unless the loss were for a time disguised in some way by money and not by credit.

But because it has been shown that money never rises and falls in value itself — what is called rise and fall being only a redistribution of purchasing power among its units, making purchasing power in each unit less by the same percentage the units gain, and greater by the same

percentage the units lose in number paid — it follows, that if money causes an *apparent* rise in an over-produced article for a time, say twenty-five per cent., this apparent rise is a real fall of twenty-five per cent., long time, it may be, before a commercial crisis demonstrates the fact. What is called rise and fall in gold in London is therefore really nothing of the kind, but only an illusion arising from the old (Ptolemaic) theory of some kind of commodity value in gold as money; for if money, including gold, never gains or loses value, gold can never rise or fall: the rise, as circulation out of banks increases, or, as an expression growing out of the same illusion has it, becomes more rapid (the actual fact being that the current from banks into producers' markets becomes more rapid through increasing loans, and the return current from consumers' markets in the inverse direction proportionally less rapid through non-payment of loans), and the fall, as circulation back into banks increases, are therefore the rise and fall of the purchasing power of the abstract, generalized-commodity unit of gold, or anything else, whether paper or credit, used as money. To speak with rigorous accuracy, it is a fall of this abstract unit in purchasing power by an increase in proportion of all the units of that kind as compared with units of commodities in all purchases and sales, whether actual deliveries of gold are made or not, as the stream out of banks by means of loans becomes more rapid; and a rise of the abstract unit in purchasing power as the stream out of banks through loans becomes less, and the stream into banks through payment of loans proportionally more rapid. With money therefore, were its true theory understood,[1] it is essential that the integrity of purchasing power in the abstract unit be maintained, so that the direct exchange of commodities shall gain or lose nothing, or at

[1] Neither the poetry nor the fact of the mercantile theory of gold and silver as the most valuable of "commodities" can be disturbed in the minds of people at large, nor ought it to be. The action of money holders as affected by the theory is a very important element of steadiness: this cannot be too strongly inculcated. It is scientists who write about monetary science, and bankers who study it, whose opinions and actions are injuriously affected by the theory.

least as little as possible, through the complicated indirect exchange with money, the laws of supply and demand being interfered with to the least possible extent. Thus, gold and silver are bartered for each other as commodities directly, in their bullion exchange, and the demand for commodities, made in whole or part of gold or silver, absorbs all the commodity units except those going into circulation through commerce to furnish the abstract generalized-commodity units; the latter use absorbing all the monetary units which demand for commodity uses does not absorb. With this qualification, the sale of the silver for the gold commodity unit in bullion exchange, by the owner of silver, is at the same time a sale of the gold for the silver commodity unit, or in other words it is a barter exchange of silver for gold, and gold for silver; it is all buying from one point of view, and all selling from another point of view; it is not buying and selling at the same time, as where goods are at the same time bought by a buyer and sold by a seller: in short it is barter. This must necessarily be the case, because gold and silver being each money in some parts of the commercial world and trade extending internationally to its limits, the commodity which is used for the purpose of furnishing or localizing the abstract unit in some countries (silver) must be exchanged as commodity for that commodity (gold) which furnishes the unit in other countries, and the latter must be exchanged for the former. This is purely a barter exchange, except that the demand for commodities manufactured of gold and silver brings the relative values of each metal as reckoned in the other to a state of nearly stable equilibrium (the variations being slight), thus reducing the usually complex elements of barter exchange which include intrinsic qualities as well as mere weight or quantity, to weight alone. In this sense and thus far, silver and gold may be called commodities, valued directly in each other for the purpose of settling the terms of the exchange upon which they are to be used as money, and that proportion having been generally fixed at 15½ for 1 unit by weight of gold and 1 for 1

unit by weight of silver, the demand for commodities manufactured of gold and silver has adjusted itself to these terms, and these terms have adjusted themselves to that demand, and they are perhaps very nearly such as would naturally arise, had not the terms been thus fixed; in other words these are the terms naturally arising after the demand for commodities made of gold or silver is, upon the average, satisfied. Gold and silver, being both commodities for furnishing the standard monetary units, cannot by any possibility be used for the purpose of buying and selling each other because they are always commodities to each other: they must be exchanged for each other, as monetary units of paper are exchanged for each other, and as monetary units of paper are exchanged for those of gold and silver, and the latter for the former. The bullion exchange between gold and silver, in London for instance, is, with the qualification stated, a barter exchange between two metallic commodities, gold and silver, or rather between the standard units of each, because there cannot be even a barter exchange without an exchange of a standard unit of one commodity for a standard unit of another: one commodity cannot be exchanged in an indefinite sense for another, because that kind of exchange is not only abstract, but impossible: the exchange, like that of money for commodities, must be founded on some rules of proportion, or it would be impracticable. Suppose gold to be the only money in use: there would be no barter exchange with silver required in that case, because silver would then be, relatively to *all* commodities, what it is now relatively to gold only, a commodity, as platinum still is.

If then we suppose gold to be the only money, excluding, to simplify the demonstration, all paper and "credit" money and all banks, the manufacturing producer before mentioned, who held twenty-five per cent. excess of his product, had, looking at realities, reduced the price of his overstock, reckoned in the stock or products he had consumed while producing it on credit, fifty per cent., but so long as he could extend the credit by a renewal of his loans even under barter, or sell to

some one else who could borrow, the price was reduced only twenty-five per cent. Under the universal so called rise of gold as an intermediary in exchanges, on the contrary, the twenty-five per cent. excess could never be produced by the aid of loans, without paying out (buying) and putting in circulation twenty-five per cent. relative excess of gold to pay for the relative excess (rise) of commodities consumed in order to create the excess, and that gold must go into and remain in general circulation until the debt is paid.

Suppose now silver to be introduced universally as money in company with gold, the latter by supposition having been in use alone heretofore. The gold monetary unit was, when used alone and without silver, an abstract unit, localized in and limited by its containing metal: it could not value itself, even in bullion, and it was and could be used only as the medium of expressing the value of all commodities in an abstract form, and the generalized equivalent, within the limits of its purchasing power, of any and all commodities — the highest form of value, which can be given to anything. Silver now stands, in virtue of its monetization, in the same relation to all commodities in which gold stood, and still stands, gold alone excepted, and gold now occupies the same relation to all commodities it did before silver was monetized, silver excepted. Gold has therefore now become commodity to silver only and silver commodity to gold only. Each being, independently of the other, money to all commodities, cannot by any possibility be money to the other. Hence gold and silver must each be commodity to the other and each must have its units of metallic commodity valued in those of the other, in bullion exchange. But the exchanges of commodities are direct, each being valued in the other, while the exchanges of the abstract generalized units of money for units of commodities are indirect or inverse. Therefore the value of the abstract unit of silver in exchange for all commodities, or in other words general prices in silver, must be inverse to the prices of silver reckoned in gold, and prices in gold must be

inverse to prices of gold reckoned in silver, and the value of each monetary unit of either metal in mercantile exchanges, inverse to the value of its bullion in bullion exchange. Relations of weight between the commodities silver and gold must necessarily adjust themselves through their commodity values, because when they leave the bullion market they cease to be commodities; that market merely adjusting the weights of their respective units: all that is not absorbed by the demand for commodities made in whole or part of silver or gold, or both, goes into general distribution by the hands of buyers, and if the units of both metals are distributed together by an agreed ratio (say approximately the one growing out of the demand for metallic commodities) there is no inverse proportion to be adjusted, between the values of the units of either metal as bullion in bullion exchange, and the same units in general circulation. Because the units employed as money have ceased to be units of a particular commodity, inverse proportions must arise, but mutually complement each other under general bi-metalism: additional metal giving no additional value to the monetary units as a whole or parts of a whole,[1] but only taking value away from each in

[1] Upon the same principle, if bi-metalism were universally adopted, should the production of gold and silver through improved methods of working mineral increase, say ten fold, it would become cheaper than now, as material for plate and other metallic commodities. This would increase the demand for the latter, but not enough to carry all the increase into that use. Gold and silver left for monetary uses, after the satisfaction of the demand for metallic commodities, would thus be enormously increased. The mercantile theory would say that gold and silver as money had fallen in value; but this would be a mistake. Without recoinage of both silver and gold coins, with an increase of metal proportioned to the gain in production, the metallic unit of each kind would lose purchasing power, but with recoinage it would not. Whether a "fall in silver and gold" took place or not would depend, therefore, not upon the increased quantity of gold and silver, but upon recoinage and the number of units into which each metallic mass was divided. Recoinage might limit the number (if recoinage took place) so that it would not exceed the number which would have existed, had not metallic production increased. Fall of gold and silver everywhere really means that a new limitation of the metallic units of each kind to correspond with their increased mass is essential, in order to maintain the steadiness of the metallic unit in its conventional value. As money, that unit has conventional value only, and it is absolutely impossible, therefore, for its metallic mass to rise or fall in mercantile value.

exact proportion to their increase in number as compared with the units of commodities, and loss of metal, while taking away no value whatever, adding nevertheless to the value of each unit in exact proportion to the decrease of all the units in number as compared with units of commodities, the commodity exchanges in the bullion market and the exchanges of the abstract monetary units in commerce harmonize. If gold and silver when used as money continued to be, in relation to all other commodities, still commodities themselves, as they are in relation to each other, a single standard would be as good as a double standard, and perhaps better. All the arguments of the mono-metalists are based upon the hypothesis that gold and silver are commodities when used as money quite as much as they are commodities in their bullion exchanges: I will now assume for the purpose of demonstrating, even to an absurdity, the falsity of this hypothesis, that it is really true. If prices ultimately rise in mono-silver and fall in mono-gold countries seven and one half per cent. for the reasons heretofore given, all commodities in mono-silver and mono-gold countries (their total number continuing as heretofore) will be exchanged either for seven and one half per cent. more of the commodity silver, or seven and one half per cent. less of the commodity gold, than heretofore. It follows that silver having fallen seven and one half per cent. in all commodities for which it is directly exchanged, including gold, while those commodities have risen seven and one half per cent. in silver, the rise of all those commodities — gold included — seven and one half per cent. in silver as commodity, will make those commodities and gold itself as commodity exchange at par, whereas commodities in mono-gold countries have fallen in gold as commodity seven and one half per cent. Commodities in mono-silver countries have therefore risen in commodities of mono-gold countries through gold as commodity seven and one half per cent, while the latter have fallen in the former seven and one half per cent. But inasmuch as commodities in mono-silver countries cannot be exchanged di-

rectly for gold, nor those in mono-gold countries directly for silver, the exchanges of commodities must be indirect through the bullion exchanges of each country. Gold having risen seven and one half per cent. in all commodities in which it is exchanged, those commodities have fallen in gold seven and one half per cent. Commodities of mono-silver have thus indirectly risen in commodities of mono-gold countries, and those of the latter have fallen in the former, seven and one half per cent., through commodity or bullion exchanges of gold and silver, when according to the hypothesis, they have both risen equally in silver and fallen equally in gold. It is therefore impossible for gold and silver to be commodities in their character of money if they are also commodities in bullion exchange, and it is impossible for them to be commodities in bullion exchange, if they are commodities in other exchanges. The seven and one half per cent. excess of silver buys no more commodities, and the seven and one half per cent. loss of gold causes no less to be bought with the remaining gold. Silver is thus, through mono-gold metalism, made the standard instead of gold, assuming such a thing as monometallic standard to be possible. The demand for commodities in mono-silver countries can only be made effectual by giving seven and one half per cent. more silver for them than formerly: there may therefore be said to be, indirectly, a demand for seven and one half per cent. more silver than formerly, while for the opposite reason there is a falling off of seven and one half per cent. in the demand for gold. In an indirect sense it may be said, therefore, that the demand for silver has expanded exactly seven and one half per cent. with the expansion of supply while the demand for gold has fallen off seven and one half per cent. with the contraction of supply. The expansion of the demand for silver to the extent of the new supply must nevertheless indirectly carry up the commodity silver in bullion exchange for gold, seven and one half per cent., and the contraction of the demand for gold carry down the commodity gold in bullion exchange for silver, seven and one half per cent. The case

of a merchant in mono-gold countries is therefore much like that of the producer who is left with overstock on his hands in a commercial crisis, if he exports silver to mono-silver countries, except that in his case conditions have been made permanent through mono-metalism, while under prices increased by an expansion of circulation preceding a crisis, and decreased by a contraction of circulation following a crisis, they are temporary. There is loss undoubtedly to the merchant, and so great as to stop or greatly obstruct trade, were it not for a mutual compensation between the merchants on both sides through division of profits. The merchant in mono-gold, who trades with a merchant in mono-silver countries, whether he ships silver or goods, will usually make a profit, as will the merchant with whom he deals: these merchants will mutually contribute to make up the loss in the first instance, but the loss will be largely made good by consumers in all countries. Great irregularities and disturbances in trade must result. Hence the true science of the whole subject, founded on facts, demands either exclusive bi-metalism or exclusive mono-metalism in point of principle, but looking at all the facts in the case, bi-metalism. It is impossible to have any true science upon this most intricate and abstruse subject, without long and careful study and investigation; sound science will perhaps be established at last, and in the mean time the United States ought to abandon the idea of mono-silver metalism, which must result in time from a coinage of silver even at the present rate of speed, limiting the coinage to subsidiary purposes, and recoining at $15\frac{1}{2}$ all that has been coined at 16. No change is likely to take place in the direction of bi-metalism until the theory of money I have unfolded, and as I think demonstrated, is adopted by scientists.

I have demonstrated the truth of the theory in a variety of forms, and I have done so because it is impossible to understand mono-metalism and bi-metalism, without understanding the whole science of money, especially that part of it which treats of rise and fall of prices through the expansion and contraction of loans.

Mono-metalism produces a permanent rise on the one hand and a permanent fall on the other, while the expansion of loans by the expanded use of the abstract unit produces a temporary rise on the one hand and a temporary fall on the other, or a perpetually recurring series of rising and falling, and falling and rising prices. Steadiness of prices is the objective point nevertheless, and the true standard to be sought. It is the entire absence of steadiness which results from the present false theory of money, and the resulting false theory of production and commerce, and not earthquakes, sun-spots, credit, or speculation, which causes the worst phases of our banking, commercial, and industrial crises. Unquestionably there must and always will be more or less over-production and under-production, overstock and understock, high prices and low prices, but they are allowed to attain their maximum under the prevailing theory of money, while under a true theory they would be brought to a minimum. That theory (the true one), stated as briefly as possible and in the most general terms, is, that any commodity adopted as money, without limitation anywhere, ceases to be any longer a commodity in its character of money and becomes a series of units of that commodity distributing and distributed, by and with commodities, by the action of buyers and sellers of commodities, through the motive forces of demand and supply. Demand and supply act directly upon the production and distribution of standard units of commodities, and thus only act indirectly upon the production and distribution of standard units of the commodity which furnishes money. Demand is the element which gives value, while demand and supply are the elements which, by their action and reaction, determine the limits of commodity or mercantile value. Value is any sum total of commodities or capital, for which another total of commodities or capital will and does exchange. The value of all or any number of standard units of commodities, abstractly or generally stated, is their abstract or generalized commodity value expressed in monetary units, and varying with the number of those

units given in exchange for units of commodities: the value increases as units of money paid grow less in number as compared with units of commodities sold, and decreases as they grow larger. Money as such has no value in itself, but only in commodities: it has therefore no value of its own reckoned in other commodities, as it would have, if not money. Commodities are valued in money, but money is not, as commodity, valued in commodities, and if more than one commodity be adopted to furnish monetary units, each of those commodities is valued as commodity in each of the other commodities furnishing monetary units, and by the indirect action of the forces of demand and supply upon the total of each of those commodities put to commodity use, the terms of weight or measure by which all the monetary units of all such commodities shall be used as money with equal purchasing power, in each unit, are settled; the portion of each commodity not directly absorbed by demand and supply being money. In order to prevent conflict between these barter terms and the terms of abstract or general-average value of the several monetary units in general exchange for all commodities, it is essential that all the monetary units of all the different commodities should go into circulation together and be distributed together, by means of general commerce. Monetary units thus put in circulation and distributed together everywhere, and not allowed to part company upon any mono-commodity theory, are, unless and until their use or movement from hand to hand is artificially increased through loans, to pay in great excess the wages of labor and profits of capital in advance of commerce itself, or in other words consumers' markets, efficiently limited in all exchanges by the whole mass of the commodity whose units are thus distributed, in the most perfect manner possible. Under all circumstances there must be more or less action and reaction, rise and fall in production and commerce, and therefore the monetary unit is never perfectly limited by its metallic mass; but when there is no artificial increase of circulation through banking, the variations between the units and their mass are com-

paratively slight in point of time and range. When however circulation out of banks increases, to pay wages, cost of raw material, and profits of capital, much faster than their products will sell to consumers; when the current of money out of banks is rapid and the current into banks slow, then the monetary unit of gold or silver is not limited by its mass. Units of irredeemable bank or government paper money are not limited by any commodity like the monetary units of gold or silver, but imperfectly by the units of commodities produced by those who borrow them, and therefore the ratio of variation between the purchasing power of their unit at its highest on the one hand, and lowest on the other, is the same with that of the metallic unit, but the range of its variation (from high to low and low to high prices) is greater. Take the case of gold in a country like France and then in a country like England or the United States: in the former the range of variation is less than in these two great producing countries. In a state of barter, every commodity has a special value of its own reckoned in each and every commodity for which it is exchanged, the units of one commodity exchanged being valued in those of the other commodity exchanged, demand and supply determining the limits of value. With money — gold, for instance — in use, the action of demand and supply upon the real value of every commodity reckoned in other commodities indirectly exchanged for it, is more or less disturbed by the auxiliary, money, but the disturbance is a minimum, when the circulation of money is not artificially increased. In cases where the disturbance is a minimum, money being evenly distributed with commodities, and no excessive overstock being created by loans, rise in value of any one commodity, through falling off in supply, requires relatively more money to obtain it, and hence there is less money left to buy other commodities, unless demand falls off with supply; but if supply advances in excess of demand, the contrary happens: demand and supply thus act upon the value of commodities reckoned in each other, indirectly through money, as they would directly

in barter. But when the circulation of money has largely increased through banking before the advent of a banking crisis, and just before prices have attained their maximum, in London for instance, the rise of prices is composed of two elements: 1st, a rise in money value of over-produced articles through increased demand resulting from rising prices, which cause more labor to be employed; 2d, a rise in money value of articles not over-produced, whose price is on the whole most steady. This system of production on credit, however, cannot be indefinitely extended; it has its limits, and those limits are the ability to distribute overstock at higher rates in money than cost in money, whatever the real cost in commodities consumed may be. Although the value of the gold monetary unit may fall between the periods of making a loan and paying a loan more than enough to take away all chance of profit as reckoned in commodities on the whole, nevertheless if the producer can sell (whether to a consumer or not is immaterial for this purpose), and have a sum of money left as profits, he has gained instead of losing, and he will continue to produce until he can sell no longer at a money profit, and perhaps by way of compulsion long after, fearing that he may lose more than he can gain, by stopping.

When prices are rising in London, it is supposed that the commodity gold is falling, whereas it is in reality a great rise of over-produced commodities and a considerable rise of commodities not over-produced, reckoned in the abstract monetary units of gold, or what is the same thing, of "credit." The monetary units are no longer limited by their containing metal, because the metal has fallen in value and they cannot fall in number to correspond with the fall of their bullion. The mass of metal has fallen in value inversely to the rise of commodities sold in consumers' markets, because its mass has increased in excess of that of each of all the commodities bought by consumers. Hence it is said that gold has actually fallen in all commodities exchanged for it.[1] If

[1] The great difficulty in writing about money is to be understood, the whole subject is so exceedingly complex. Probably not one in ten

this were the *only* fact in the case it would be simply a fall in commodity value of gold, reckoned in other commodities exchanged in consumers' markets in London, but it is only *one* fact: all the commodities over-produced have risen, and gold, a commodity which "cannot be over-produced," has fallen. Here is a contradiction in terms upon the commodity theory. Hence the fall in gold is not a fall in the commodity gold, but nominal rise of commodities and in gold monetary units as the common medium of valuation. In other words, the units of masses of commodities produced have not all gone into the market of consumers, but only in proportion to the units of commodities not over-produced; the producers of the latter having nothing left to give in exchange for the excess, while the units of gold, the common medium of exchange, have gone into the market of all consumers in proportion to the units of commodities over-produced. While the units of over-produced commodities actually going into consumers' markets are thus limited in number for a time by the units of commodities not over-produced and by their mass, the units of gold in circulation are actually expanded in number, in proportion to the units and the mass of all commodities produced, and their mass has as gold, not of itself, but only

thousand of those who are continually handling money, knows what is meant by the mercantile theory. The general opinion is, that metallic money is the highest form of value which anything tangible possesses, although the opinion may possibly be somewhat shaken through the partial abandonment of silver as a precious metal. The popular idea is substantially sound, and will fortunately always prevail as long as gold and silver are money: it is one of the most important elements of steadiness in the purchasing power of the metallic unit. This idea ought not to be, and in fact cannot be, subverted. All that is wanted is a truly scientific theory of value of all kinds, but especially that of money, in order to demonstrate to scientists the principles upon which alone the steadiness of the metallic unit can be maintained: their false theory of money has prevented them from perceiving, that superior steadiness is really in point of science the grand object for which such countries as Great Britain and the United States require the precious metals for monetary purposes at all. Steadiness is well purchased at the high cost of the precious metals to those nations which use them: even hoarding is not injurious so far as it helps to maintain steadiness, for the hoarder does not hoard a commodity, but an unexercised power, which he himself can exert but once.

through their abstract units, fallen in value in the market of consumers, by the total over-production brought about by loans. Could their units move inversely to their mass, or in other words could their number contract, or in still other words, fall in number with their falling bullion, prices would be steady; but this is impossible, and therefore a rise of all commodities is maintained, until a crisis comes which arrests over-production.[1] Then follow sales in a market of low prices of what was produced in a market of high prices, like the sales which will result from mono-metalism, with this difference, that there is a fairer probability of a recoupment of losses out of profits on both sides in the latter case, than in the former. While loans and production and therefore producers' commerce are rising, the exchanges of money in wages for labor, and therefore of labor for commodities which labor consumes, are largely in advance of that commerce which consists of the exchange of commodities. There are, it is true, no more buyers than sellers, but these terms deceive as long as commodity value is imputed to money. If gold were really a commodity when it leaves the bullion market, then there ought to be commodity exchange whenever it buys commodities, but this is a fallacy. Commodity exchange is direct and simple: it is iron valued directly in copper and copper in iron; gold valued in silver and silver in gold; but when gold or silver is an intermediary, it is units of commodity valued in units of gold or silver, and the same units of gold or silver valued in units of some other commodity or even the same commodity again, and the terms of the proportion are inverse. Actual rise and fall stated in money is rise and fall in purchasing power on the part of the abstract unit which causes rise or fall in its bullion. The bullion falls in purchasing power *because* its unit falls in purchasing power: if the unit

[1] If the purchasing power of the money received as wages and profits would fall, money wages and profits not expanding at all but continuing the same in volume instead of expanding in volume enough to compensate for fall in purchasing power, this power would of itself arrest over-production immediately, because producers and laborers could not live.

could be made to rise in purchasing power, its bullion would rise with it. All this occurs because gain or loss of metal affects not the total but only the distribution of purchasing power: the additional metal gives no additional value, while loss of metal takes none away, and there would be no loss or gain to anybody through redistribution of purchasing power, if the units could be made to change with their changing mass, or in other words could there be a recoinage. Loss and gain in the value of bullion of money in actual use is an illusion arising from supposing gold as money to be at the same time commodity. Demand and supply have no direct application to money, but only an indirect one, resulting from demand and supply of commodities.

Under this theory of money founded upon facts, gold and silver have no commodity value whatever except in bullion exchange, which indicates the value of one metallic unit in the other, in proportion to masses: when the unit of either metal goes into circulation as money, it ceases to have any commodity value whatever; the law of demand and supply has no reference to the monetary unit, but only to the commodities which it exchanges, and demand alone gives mercantile value to any commodity. Demand aside, no commodity has value and ceases to be any longer a commodity: so far as commodities relate to it, it becomes abstract. This is the case with gold and silver, when used as money. All exchanges are made upon some principle of proportion between the standard units of the commodities or things exchanged.

Rise of one commodity means, that while producing consumers who have produced other commodities are still able and willing to exchange their surplus for the surplus of the commodity which has risen, as they heretofore have done, the number of standard units of their commodities in surplus has increased relatively, as much as those of the commodity which has risen have decreased. They are compelled therefore to give of their units, in exchange for the units of the commodity which has risen, an additional number over and above

average, which number equals exactly the rise of the commodity they take in exchange, and the fall of their own commodities which they give in exchange. Thus: the average rate of exchange between the standard units of copper and tin being assumed, if the units of tin ready and waiting for exchange increase fifteen per cent. above average, and those of copper remain at average, copper has risen fifteen per cent. above tin, or in other words copper has risen seven and one half per cent. above and tin fallen seven and one half per cent. below the line of average: in still other words there is a rise of fifteen per cent., if all the tin and all the copper are thrown upon the market. Prices of copper must rise in exact proportion with the increase of tin, and the prices are expressed in figures with mathematical exactness. If there were no such thing as money in the world, the proportion would be stated in this manner, and thus stated, it is a rise of price in commodity, amounting to fifteen per cent.

But did or could a case of this kind ever occur in a state of barter? Probably it never did, because it is scarcely possible that it should. The surplus tin would not be thrown upon the market for nothing, as in the case supposed, for in that case one hundred and fifteen pounds of tin were worth no more and brought no more, than one hundred pounds had brought before: the surplus tin would therefore be kept out of market, especially if it still cost as much to produce it per pound as it had before the surplus existed, upon the strength of the producer's own or borrowed capital, until it could be disposed of at cost and a profit; and if this could not be done, then it would be disposed of at such lower prices as the producers and consumers could agree upon, unless the producers were forced into bankruptcy, and then all the tin might fall fifteen per cent., and possibly below those figures. The point to be noticed is, that the elements of a fall of fifteen per cent. exist as soon as the fifteen per cent. surplus arises, and that upon the favorable contingency of the surplus being increased no further, and in the mean time kept out of market upon

the strength of the producer's own or borrowed capital, there may be no fall whatever; but if the energy of production and the accumulation of capital be great, as they are in Great Britain and the United States, production of this kind, indefinitely extended in other quarters as well as in that of tin, might end in causing a large number of bankruptcies and fall of prices, not so much in absolute necessaries as in articles of which I have made tin the type. The fall, when it comes, does not usually stop at the typical fifteen per cent., but goes much below it. Accumulated capital, demand and supply, and consumption carried to a point which is designated in reference to the United States as well as Great Britain by the word extravagance, determine the period of duration of this activity of production in certain quarters and increased consumption above average in all quarters: the longer the period, so much longer the period of the reaction which appears in the shape of diminishing production in the quarter where there has been over-production, falling prices, economy instead of extravagance in the use of the articles and services over-produced, in which the range of possible extravagance and possible economy is great, while the consumption and therefore prices of absolute necessaries, in which the range of extravagance and economy is comparatively small, meet with less change. The point to which I call attention here in order to illustrate my theory of money is, that this variation arises from the fact that all these commodities — tin included — and all these services rise in price, to fall of course afterward, because people want them and desire to obtain them for their own comfort and it may be in some cases luxury; in other words they want them as consumers and they are thus a practical reality to them, always before their eyes. Did they (the consumers) not want them for these purposes but only to place in an unending series of exchanges with each other, then all the accumulations of the units of any one commodity, like tin, fifteen or more or less per cent. above average, would be thrown upon the market, but would add no value to the whole commodity. In-

stead, for instance, of only 1 unit of tin exchanged for 1 or more units of copper, it would be $1\frac{1}{100}$ of tin for 1 or more of copper. The same would be true of all commodities: no increase of number of the units of any one commodity would add in the slightest to the exchange value of that commodity as a whole, and for that reason the increase (say fifteen per cent.) would take from each unit of the expanded series fifteen per cent. of exchange value; and inasmuch as no increase of numbers could give, so no diminution of numbers could take away, exchange value until the last unit ceased to exist and nothing would be left to exchange: a diminution of fifteen per cent. in number would on the contrary only add fifteen per cent. to the exchange value of each unit. Under these conditions, commodities would have no relation to any human wants, save the one of furnishing enough material to make the units, because by supposition no human wants, having any other relation to the commodities, exist. Suppose the wants of consumers however to exist, but at the same time the impossibility of satisfying them for want of anything to give in exchange. In that case the increase would confer, in the hands of those who possessed it, no additional value upon any commodity, if one choose still to call it commodity, nor would decrease in its units take away any of its value reckoned in the units of other so-called commodities: its value reckoned in other commodities, and that of other commodities reckoned in it, might therefore well be called abstract in respect to human wants, because, like the units of the abstract ratio 2 : 4, it would not add value, but merely change the value of each of the units, were seven and one half per cent. added to each of the members, as in the abstract equation $3a = 4b$ it would not add value to $3a$, to change the units to $4a'$, if each of the new units became in value $\frac{3}{4}a$, instead of continuing each $1a$. Now if we suppose the impossibility of satisfying human wants to give way to possibility, and trade to arise, with this exception, namely, that two out of all commodities can be supplied up to a certain point, and the possibility to

stop precisely there, then beyond that point the values of those commodities stated in other commodities become and ever after continue abstract in the sense before defined, while up to that point they are not so. Up to that point demand growing out of human wants carries into consumption all the units of the commodity produced, and at that point it stops, because it is unable to take any more. Now if we call these two commodities gold and silver, and add the qualification, that the units of all that portion of each which is left after consumers have taken all they are able to take, are henceforth used only to give in exchange for the units of all commodities without exception, as a generalized equivalent, we have gold and silver money as it exists *in point of fact.* Henceforth as money, no addition to and no diminution of the units as a whole, or parts of a whole, changes their value in the slightest, or in other words the number of units of other commodities which will be exchanged for them: the value of *each one* of the monetary units is the only thing liable to change, and that change results from adding to or taking from the whole number, while that whole consists of parts in the shape of units in the hands of holders, who have received them in exchange for the units of other commodities. But inasmuch as they are mere units so far as their valuing function goes, or in other words as far as they are money, other units which are not units of commodities can supply their place as valuing units, and therefore we have units of paper money, some convertible into metallic units, and some not convertible; and at the same time "inscribed" units of record convertible, and some not convertible. No addition to the number of the paper units can give additional value to the paper or metallic units, whether convertible or inconvertible, and no diminution of their number can take away value: they stand thus far upon the same footing with gold and silver, in their valuing or monetary function. Wherein then, without looking at actual facts and supposing one to pass as readily as the other, lies the *important* difference between them? Does it lie in the fact that one kind of unit is the unit of a

commodity and the other not? It does *apparently*, and yet the units of the commodity have no value whatever as the units of a particular commodity: reduce them to one tenth of their number and bulk and their value will be the same, because the one tenth will exchange for an equal number of units of other commodities, and the same law applies to the paper. But inasmuch as the apparent is not the essential, wherein lies the essential difference? It lies chiefly in the fact that while value as a whole and as parts of a whole cannot change in any money, whether metallic or paper, as long as it continues in good credit, great changes may take place in the value of each unit by a redistribution of abstract value. Limitation of the number of units therefore ought to be the great objective point in all monetary systems, so that no sudden changes, and in fact no changes whatever which will add to or take from the value of the individual unit, be allowed, provided always that they can be avoided. The value of the metallic unit ought to be protected by the limitation of the whole mass of the commodity which furnishes it, and if distributed over all the world with commodities, and not banked, with the power of giving it any circulation over and above what its owner for the time being gives it in his own character as buyer or lender, the limitation of its units is as perfect as the wit of man can make it, and it grows more and more perfect as the total of its units accumulates, because the units of commodities in commerce increase in nearly the same proportion on the average. The total of units of metallic gold and silver commodities, and the total of monetary units of gold and silver as a whole and not separated by mono-metalism, are each so great, that the monetary unit of gold or silver loses and gains but little, while the vast accumulation of metallic commodities produced up to the limit of commodity demand on the one hand, and the vast accumulation of gold and silver monetary units on the other, keep the value of commodity gold reckoned in commodity silver and the latter reckoned in the former, in the bullion or commodity market, not only in a state of nearly stable equilibrium

at 15½ and 1, but also in harmony with the exchanges of commodities in commerce, effected by means of the monetary units. Another advantage possessed by the metallic unit, which is of great importance, is this very commodity value erroneously imputed to metallic money by holders, in the same sense with commodity value in plate. This helps to give stability to the circulation and hence to the value of the metallic unit of both kinds in the hands of holders at large. They have, as they ought, entire confidence in it, and are in no hurry to part with it.

What then is money of all kinds in a general sense? It is a common medium, whose units must of course assume an abstract or general form, in order that the particular standard units of commodities which vary as they are units of weight, measure, or surface; the distributive parts of capital out of which commodities and services are furnished; and even labor and services, measured more or less perfectly in units of time or results, are brought to one common standard of abstract or generalized value. They are all brought to this common standard and their particular variations in value, as compared with each other, are stated in it according to the action and reaction of demand and supply as they would occur in barter, with the very important practical exception, that because a rise in money values is generally mistaken for a really impossible equal rise in the value of all or nearly all commodities without regard to the future loss locked up in overstock, the natural operation of supply and demand is more or less set aside, and the only remedy is to force at least a part of the overstock into market within short instead of long periods, by limiting loans within short periods by the natural variation of the metallic units as indicated by the natural operation of supply and demand.

But if metallic production adds only to the value of metallic commodities and nothing to the value of money, why continue to mine? If one hundred millions of gold mined within the next two years is worth nothing as money because it adds nothing to monetary values,

why continue to mine for it? Because the *utility* or *service* resulting in the way of maintaining the metallic unit of gold with as little variation as possible, as it passes from one hand to another, is worth vastly more than one hundred millions. It sustains production or the creation of wealth, to say nothing of that portion of the metal which goes into commodity use. The false commodity theory of money is good and useful in helping to maintain the value of the metallic unit when actually in the hands of holders at large, but the same theory is disastrous in its effects when it is supposed that bankers are dealing with a commodity in banking reserve, and that governments and people are dealing with a commodity when they are attempting to establish mono-metalism.

PROPOSED CORRECTION OF VARIATIONS IN THE "COMMODITY" GOLD, BY AN ARITHMETICAL AVERAGE.

One very able writer and thinker (Professor Jevons) has of late proposed, what had been suggested before, the making of an average in commercial payments upon the basis of the mean average of variations of gold for definite periods, thus making the real deliveries of gold, or, what is the same thing, supposed or assumed deliveries through transfers of bank credit, to be, not the particular amount of bullion promised, but the average resulting from all the variations carefully noted and registered for a given period. Under this system, a payor is not called upon to pay the exact weight of the commodity gold promised by his bond, note, bill, or book liability, but that amount *plus* more commodity gold added on the one hand, and *minus* part of the promised commodity gold subtracted on the other hand, in order to make the average. This is undoubtedly impracticable, and not only so, but from the commodity theory of money it is as absurd as to attempt to equalize contracts to deliver wheat or iron. It is extremely important however, because it shows that the minds of able thinkers have been directed from the particular

commodity point of view, to phenomena which I have examined from the abstract or generalized-commodity view. Professor Jevons regards the variations as variations in the demand and supply of a particular commodity gold; I put commodity gold aside, and regard the variations as variations in the demand and supply of all commodities and services which can be and are over-produced, relatively to other commodities and services which cannot be, and therefore are not relatively over-produced. The latter may therefore be called absolute, and the former relative: in the former there is comparatively little range of extravagance on the one hand or economy on the other, while in the latter there can be, and is, very great. During the period, say five years,[1] of ascending prices in England, there is a con-

[1] According to Professor Jevons, it takes ten years to complete what he, after the example of Mr. John Mills, of Manchester, calls a credit cycle. This term is a very good one, from the standpoint of the mercantile theory of money as an end in itself, instead of means to an end. From my standpoint, I should call it the cycle of variation in production on credit by the aid of loans of money, and not loans of credit. If the metallic sovereigns could contract in number and increase their metal one per cent., as soon as production through the aid of bank loans had increased, say two per cent., in advance of consumption, there would be no rise of prices, and over-production would therefore be at once arrested. There would be the same amount of the "commodity" gold in either case, whether the sovereigns contracted or not, but with the same quantity, the "commodity" would fall in one case and rise in the other. Precisely so in the opposite direction with gold sovereigns and all gold coins, should mono-gold metalism be carried far enough to place silver where copper is now. If the gold coins could lose metal and thus increase in number sufficiently to complement the loss of the departing silver units in point of number, the "commodity" gold would not, but otherwise it would "rise," although the quantity of the "commodity" would be the same in each case. But because general recoinage would be a difficult, perhaps impossible feat to accomplish, bi-metalism is the safer alternative, and because sovereigns cannot be made to contract in the ascending portion of the ten-year cycle in England, and expand to the old number gradually in the descending portion (which is really *in substance* Professor Jevons's plan), a regulated reserve can alone furnish the remedy, and that remedy is one of prevention. Coöperation, to an extent sufficient to make say fifty per cent. of all wages payable only after sales of the product, to buyers buying with cash not borrowed, might come very near answering the same purpose. But this is impracticable at present. The practical remedy therefore for England and the United States would be, to set their writers upon money to studying Adam Smith, in order to learn in what way bank reserve ought to be kept, and having learned the lesson practically as

stantly increasing consumption of those commodities and services the use of which may be carried to what is popularly called extravagance, and the same is true of the United States: in both countries the cause is the same. That cause is rise of prices reckoned in the unit of gold, which stimulates the demand for and consumption of those commodities and services the consumption of which can be stimulated much above average, for a greater or less time according to the wealth of the country where it occurs: the greater the wealth of the country, to so much greater extent in time and quantity can production and consumption in certain quarters be carried relatively above absolute production and consumption in other quarters, whether the latter production takes place in the same country with the former, as in the case of the United States, or partly in the same and partly in other countries, as in the case of England.

The rise of price comes from the overstock, and as long as it continues, naturally and unavoidably carries into existing overstock more and still more of those products and services which can be thus relatively overproduced: they are consumed, it is true, largely in excess of average, but those which leave a tangible result behind, as well as those which do not, are produced

matter of fact, to proceed to learn the reason in point of science, why it is true in point of fact. Demand and supply, rise and fall, have no application to even gold and silver money in any mercantile sense. If silver occupied the present place of copper in a monetary point of view, metallic units would be reduced about one half in number, and there would be none but those of gold, subsidiary coin, paper money, and "economy" of money, in commercial banks. If gold then constituted one third of the total of all money after silver had departed, there would be, upon the mercantile theory of metallic money, a great rise in "commodity" gold. But this is all an illusion. The paper money and the "economy" would rise in purchasing power in proportion to the average total of abstract units they kept outstanding in circulation, at equal pace with those of gold: in other words all monetary units would rise in proportion. But the paper money and the "economy" could not be permanently increased in volume. The "commodity" gold however could be increased in volume by recoinage, so as to compensate for the difference, in point of principle: the real difficulty would be a practical one. If accomplished, however, even imperfectly, there would be no apparent rise in "commodity" gold; otherwise there would be.

much more in excess of average, and the difference between the excess of production above average and consumption above average, in favor of production of tangible results, carries up prices gradually until a reaction sets in. It puts as much money in circulation to produce an article in the first instance, less profits of distributors to consumers which represent so much additional production, as it takes out of circulation in order to consume it. In case of overstock, its production not only puts money in circulation, but keeps it there until the over-produced articles are sold to consumers: the former is expansion, the latter contraction of circulation. The important fall of gold in London, therefore, is the complement of the gradual rise of commodities which occurs and continues, up to the time of a general crisis in production, while the *important* rise of gold is that which occurs and continues for a long time after a crisis has set in: the rise and fall which take place within short periods in London as a great international market, are comparatively unimportant. The expansion of overstock causes inversely a fall in gold, and its contraction inversely a rise of gold: the fall and rise of gold are passive and not active. The long-continued fall in gold up to the time of a general crisis, upon the theory of all the scientists, is a fall in the commodity gold, and a rise in other commodities; upon my theory it is not a rise in the commodity gold, but a real rise in all commodities reckoned in abstract monetary units (whether gold is actually counted out is immaterial), growing out of the fact that although demand for some commodities is very much stimulated by rising prices, and would, if supply did no more than meet it, balance the expansion of prices caused by the production of the increased supply, nevertheless in point of fact the demand of actual consumers is not only unable to keep up with supply, but (to add to the complexity) if it were able to do and actually did so, there would then be no overproduction at all and consequently no rise of prices: in other words, *over-production alone* is the primary cause of the rise of prices, while rise of prices, as long as it

continues, reacts and causes still more over-production, and at the same time increased activity of trade and more consumption. It is not a mere question of fall in gold, to be solved *post facto*, but a vastly complex question of mutually opposing forces, the true solution of which, by an arithmetical average, is rendered practically impossible after it has actually occurred: the only possible remedy is one of prevention through regulated bank reserve. So long as that rise continues, producers are all apparently making money, and some make a great deal of money on a rising market without losing it, because when the crisis comes, they are not swamped by overstock and debts due for overstock sold. It is the stimulus of rising prices alone, which causes *overstock in great excess*, because overstock cannot be sold at a profit except in a market of rising prices, and therefore without rising prices, it would not exist. While the condition which renders over-production in great excess possible is great national wealth, this is especially true if a large part of the wealth be found in comparatively few hands, as it necessarily must be under a monetary system which causes over-production to excess, but the *cause* is a rise of prices, taking place exactly in proportion to the over-production. This rise of prices is supposed to be a fall in gold in mono-gold countries, upon the commodity theory; upon my theory it is the conversion of a fall in commodities over-produced, into an *apparent* fall in the commodity gold until the advent of a commercial crisis, when it is demonstrated to be apparently as well as actually, what it always was actually but not apparently, a fall in the over-produced articles themselves, and in them only: it is the masking and therefore the postponement of this demonstration, which constitutes a crisis. Gold therefore falls and the over-produced articles rise up to the crisis in production; the converse of this series then follows: gold rises and over-produced articles fall. In general cause and effect it is a rise and fall of production stated in gold. The real over-production is in commodities, and not in gold, which cannot be over-produced. When gold has fallen

before a crisis and risen after a crisis, no change has taken place in gold as commodity; had such a change taken place, gold, if still a commodity, ought to have fallen and afterwards to have risen in the bullion markets, whereas upon my theory it not only remained, but it was impossible for it not to remain, stationary in the bullion market. Upon the commodity theory, on the other hand, if it fell in all commodities twenty-five per cent. before and rose twenty-five per cent. after a crisis, it ought also to have fallen before a crisis twenty-five per cent. in silver, to rise twenty-five per cent. in silver in the bullion market after a crisis. Upon the same principle gold (commodity by supposition) having actually risen fifteen per cent. of late as commodity, in silver, and silver as commodity having fallen fifteen per cent. in gold as commodity, prices of all commodities in gold as commodity ought to have fallen and prices of commodities in silver as commodity to have risen in harmony with gold and silver in the bullion market upon the commodity theory, but such is not the case; and upon my theory, general prices in gold will not fall until the units of commodities in mono-gold countries increase relatively in proportion to the monetary units of gold, nor will prices in mono-silver countries rise until the monetary units of silver increase in number in those countries relatively to the units of commodities, because the exchanges of each abstract monetary unit with all commodities is inverse or in direct opposition to the exchange of the bullion of that monetary unit (gold for instance) for the bullion of the other (silver) monetary unit. The metallic unit is the unit of a commodity *in bullion exchange only*. Precisely the same phenomenon occurs when gold, having fallen before, rises after a crisis, as between gold as a monetary unit and the units of commodities in overstock.

The units of commodities in overstock fall in value in consumers' markets because the monetary units of gold have risen. Because the fall of one commodity is rise of another valued in it, when the monetary unit of gold has fallen twenty-five per cent., relatively to com-

modities given in exchange, it has fallen relatively to itself as commodity in bullion exchange twenty-five per cent., and at the same time twenty-five per cent. relatively to commodities in overstock as well as commodities in general. When it falls in value as a monetary unit relatively to all commodities, it necessarily falls in value as a monetary unit relatively to itself as a commodity unit, because in bullion exchange it is always a commodity in the qualified sense I have so fully explained. The reason is, that in the absence of all commodity demand for it in the character of a monetary unit, and because in that character it cannot be a commodity, commodities are demanded and supplied *through* it as the generalized medium of their values, while it is not directly demanded itself. Its units therefore move inversely to the units of all commodities, including its own, for it has fallen at one and the same time twenty-five per cent. in all commodities. If the overruling and limiting forces of demand and supply operated upon the monetary as they do indirectly upon the commodity unit of gold in bullion exchange, the monetary unit of gold would always be duly limited by its bullion, because it would be limited by the same forces as the unit of commodities generally, but this not being the case, no arithmetical average can apportion loss and gain resulting from a circulation, even of gold, not duly limited according to Adam Smith's law (empirical at the time he announced it), and not duly distributed under, not monometalism, but bi-metalism: such an attempt at apportionment would aggravate instead of equalizing losses. Bimetalism is a thing neither good nor bad, neither desirable nor undesirable, in and of itself, barring the weight of silver, but absolutely essential, in order to maintain steady prices. With steady prices resulting from due distribution under bi-metalism, due limitation by banking reserve, and the exclusion as far as possible of irredeemable paper, a promise to pay one thousand pounds, dollars, or francs would be in equity as well as in form a promise to pay in *bullion* duly certified in the shape of coin by government, but without these condi-

tions it is not so. These conditions furnish the only practicable remedy for variations in gold. The steadiness (attainable steadiness) of gold and silver arises from their vast accumulation, in the shape of commodity on the one hand and of money on the other. That steadiness can be attained only through bi-metalism, which keeps the metallic monetary units in company, by *limiting* the circulation of all monetary units by a proper ratio of metallic monetary units in the reserves of those who loan to producers, and confining irredeemable paper, if issued at all, to proper limits; and it can be maintained only by never departing from these methods of limitation. I have demonstrated and endeavored to illustrate this theory in a variety of forms, but this I deem essential in order to make plain my meaning upon so complex a subject. This theory is entirely new and in opposition to that of all scientists, as I believe, and therefore to say so in plain terms is necessary, in order to aid in contrasting it with the theory of values generally prevailing. All values whatever are founded on proportion, and the things valued appear, so far as commodities are concerned, in standard units of commodities by weight or measure. These units differ from each other in kind, and at the same time the law of want and quantity (supply and demand) varies or changes the value of units of commodities expressed in units of other commodities to-day, from their value of yesterday, and may change them back to-morrow. These values, and the values of all services and capital, are brought through money to one and the same standard; and what standard can that by any possibility be, save the abstract unit 1, in whatever form it may be localized, limited, and named, and additions to, and fractions of, that unit? To attempt to measure in *general* terms the value of all the yards of cloth, bushels of wheat, and pounds or ounces of copper or platinum, by pounds or ounces of gold only, is attempting to apply in all cases that kind of measure which is utterly impracticable in any case. It is attempting to do with the aid of one or two commodities only, what is impossible with the aid of all commodities:

in short it is to affirm (as we actually find in the books) that although single barter is the exchange of savages, and civilized men away from markets, nevertheless it is still in use in international trade, and in all cases where either convertible or inconvertible bank credits are used, while in retail trade, if gold and silver are used, it is necessary to go through double instead of single barter, in order to supply one's wants: the holder of gold, in other words, is compelled to barter commodities for the commodity gold, and then barter the commodity gold, which he does not want, for other commodities which he does want, instead of bartering commodities for commodities directly, after the more convenient method of savages.

The exact difference, according to my theory, between exchanges by barter on the one hand, and money, whatever its form, on the other, is, that even in barter, yards, pounds, and measures, of goods, capital, and services, must, when bartered, or in other words when directly exchanged, be compared, in order to form a basis, upon which exchange can take place: this basis is proportion in the abstract. If one commodity be called or represented by 2, the other may be represented by 3, and the basis of exchange is settled and deliveries made accordingly. In barter, the abstract units of the proportion have no locality, but they are limited by the commodities themselves: the units of one commodity limit the units of the other, and establish the proportion. If the units of one commodity are limited absolutely by 2, they limit those of the other commodity to 4, and if the units of the latter are limited absolutely by 4, they limit those of the other to 2. If 2 be changed absolutely to 3, this new limitation changes 4 to 6. Now money is this abstract unit 1, which, limited in every case of barter by the commodities, services, or capital exchanged only, is, in the character of metallic money, limited by, and localized in, the units of one or more commodities like gold and silver, conventionally used for that purpose. If this theory is sound, it follows at once, that some law must be applied to the distribution of these localized units,

not as commodities, but as limited units of a commodity, and also to their circulation or use in commerce.

The unit of metallic money thus becomes an abstract monetary unit, limited more or less perfectly by its bullion, distributed more or less perfectly by commerce, and more or less perfectly limited in point of use by commerce itself, or in other words, *by commodities actually exchanged*. If it is paid out for labor in any place to produce more commodities than can be produced in others for exchange, its circulation is imperfectly limited. The unit of paper or "credit" money, on the other hand, although like that of metallic money abstract, is more or less perfectly limited by metallic money when convertible, and when inconvertible, it is limited, if limited at all, not perfectly by commodities exchanged, but by labor and capital required to produce them. The objective point of perfection therefore is, not to make 2 : 3 in contradistinction to 3 : 4 or any other particular proportion the basis of exchange, but the basis itself when once adopted, whatever it may be, as steady as possible.

Hence the necessity of keeping the metallic units in company: they are units of commodities in bullion exchange, indirectly subject to the law of demand and supply for commodity use in various forms, and if silver is excluded from European exchanges as a monetary unit, and therefore cannot be used directly in those exchanges, the bullion of its unit can nevertheless be exchanged for the bullion of the gold unit, in bullion exchange, and the latter paid out as a monetary unit, in all European exchanges. When therefore the old ratio of $15\frac{1}{2}$ and 1 is restored as it must be, the seven and one half per cent. excess of silver in the East (China and the East Indies) which is utterly worthless there, because it buys and exchanges for no additional commodities, and has cost the East nothing, having been carried there by Western buyers, will become indirectly, through the commodity or bullion exchange, worth not only as much to buy with in Europe as it was before Germany attempted mono-gold metalism, but seven and one half

per cent. more, through the rise in value of the gold monetary unit in Europe. This comes from the fact that the monetary unit of gold or silver is abstract, while its commodity unit is not. The abstract monetary units of gold and silver, having parted company, must carry their bullion through the commodity or bullion exchange, in order to furnish abstract monetary units of gold which are alone current in Europe. If abstract paper units, not convertible, were alone current everywhere in the world, and those of certain (say Eastern) countries were seven and one half per cent. in excess of the typical ratio of 2 : 4, while in other (Western) countries, they were exactly in that ratio, the Eastern paper would, in Western money brokers' exchanges, sometimes, after discounting seven and one half per cent., be above and sometimes below par, according to the natural course of exchange, but merchants and consumers would not suffer the loss resulting from the Eastern monetary unit being required to go through a commodity exchange like the monetary silver or gold unit, before it could be used: the exchange would be abstract (Western) for abstract monetary (Eastern) units, having always seven and one half per cent. fixed discount to carry with them, in order to bring them to the Western par, rates of exchange varying according to the state of trade. The abstract monetary (Eastern) unit of silver, on the contrary, which, having lost seven and one half per cent. of purchasing power in the East, is justly as chargeable, so to speak, with a fixed discount of seven and one half per cent., to bring it to the Western par, when exchanged for the abstract Western monetary unit of gold, cannot by reason of its bullion be exchanged directly for that unit, and the only direct exchange possible is a commodity exchange of its bullion for the bullion of the gold monetary unit. In other words, gold is an abstract monetary unit to *all other commodities in the world, silver excepted, and silver is an abstract monetary unit to all commodities in the world, gold excepted.* Silver is not therefore, as commodity, valued in the abstract monetary units of gold, nor gold as commodity in the

abstract monetary units of silver, and there cannot therefore be a fall of the commodity unit of silver in company with units of all commodities, in the monetary units of gold, because the two metals are commodities to each other only. But when silver bullion as commodity shall have risen in gold bullion as commodity and gold bullion fallen in silver bullion as commodity, the measure of that rise and fall will be the fall per cent. of each abstract monetary unit of silver, and the gain per cent. of each abstract monetary unit of gold, in purchasing power. Gold and silver standard units are, in other words, at one and the same time both units of a metallic commodity which is as much a commodity as any other metal — platinum or copper for instance — can be, in the limited sense that each metal is commodity only to the other metal, and monetary units for the purpose of measuring the values of all commodities, by bringing them all to one standard; which standard can by no possibility be anything other than abstract units made tangible in and limited in number by the whole mass of metallic commodity used for that purpose. When used as money they are not commodity, and when used as commodity they are not money. As money, the value of each unit reckoned in commodities at large falls directly and exactly in the same proportion or ratio by which the units paid for commodities increase in number: if the latter (silver for instance) increase upon the average seven and one half per cent., the former (value of unit) falls seven and one half per cent.; if on the contrary it (gold) decrease seven and one half per cent., the former (value of unit) increases seven and one half per cent.: the rise in number of all the units (silver) on the one hand is inverse to the value of each unit, and the fall in number of all the units (silver), on the other hand, to rise in value of each unit. But if all overstock is brought to market, precisely the same law prevails in all exchanges of commodities in consumers' markets by means of barter: if the units of any one commodity exchanged for those of every other commodity increase in number without increase in those

of any other commodity (no increase of supply), and still more if they increase in excess of a general increase in those of all other commodities (general increase of both demand and supply), rise and fall are governed by the same rules, as to all the units brought into the market of consumers. Hence the monetary units of silver, when they carry their silver bullion into bullion exchange for the gold bullion brought there by gold monetary units, necessarily rise seven and one half per cent. in that exchange, as soon as they have fallen seven and one half per cent. in the exchanges of commerce, made by their monetary units with the standard units of all commodities in mono-silver countries: the seven and one half per cent. excess of silver bullion cannot be in two markets at one and the same time, because the bullion is indirectly subject to the law of supply and demand in bullion exchange only. If it has left the market of bullion exchange, it is found in the general market of commodities in mono-silver countries, where it is not subject to supply and demand; if it has left the old market of commodities in some countries as a monetary unit (Germany, etc.), it is accumulated for a time in the bullion market, until the surplus can be distributed in other markets of commodities where silver is current. On the other (negative) side, gold not having so acccumulated, and having risen therefore in bullion exchange as much as silver has fallen (seven and one half per cent.), the units of commodities in mono-gold countries will increase relatively seven and one half per cent. above those of the monetary units of gold: they (commodities) will therefore fall in the monetary units of gold seven and one half per cent., and the latter will rise in them seven and one half per cent. But gold cannot rise in two different markets; it cannot rise in the general market of commodities and the bullion market at one and the same time, for the same reason that silver could not fall: its rise of seven and one half per cent. in commodities at large, complementing an equal fall in them, is a fall therefore in the bullion market. This is only another form of stating the general

principle already established, that rise of the monetary unit in monetary or general exchange is fall of its bullion in bullion exchange, and rise of its unit in general exchange, a fall of its bullion in bullion exchange.

This is the universal law governing the value of every monetary unit which carries commodity (bullion for instance) with it, in its monetary exchanges where two kinds of bullion are in use and the units have parted company through mono-metalism; it must make its bullion exchange balance its general or monetary exchange, in order to harmonize the generalized-commodity or mercantile exchanges which are inverse to those effected through the agency of every other commodity. If silver falls and gold rises in mercantile exchanges seven and one half per cent., the bullion exchange being precisely the reverse, it will be because the theory which supports mono-metalism is false. That theory is, that metallic money is a commodity in mercantile, as well as bullion exchange, and therefore commodities buy money, just as money buys them. If that theory were true, mono-metalism might be not only the best but perhaps the only practicable system. If that theory were true, then, when silver falls seven and one half per cent. in exchange for gold in the bullion market, it falls seven and one half per cent. at the same time in mercantile exchanges, and when it falls in the latter, it falls equally in the former. Because while this is not the fact, mono-metalism is founded nevertheless upon the assumption that it is the fact, I affirm that it is founded on a false theory. If it be a fact, then, when prices rise seven and one half per cent. in mono-silver and fall seven and one half per cent. in mono-gold countries, the commodity or mercantile exchange will not tend to rise fifteen per cent. in favor of mono-silver and against mono-gold countries, in direct opposition to its present tendency through bullion exchange. Exchange at present tends to run fifteen per cent. against mono-silver countries, but it is counteracted by the opposite tendency to rising prices in mono-silver countries. These two tendencies will mutually serve to counteract each other and

will counteract each other exactly if the product of silver shall decrease in proportion, but as that is improbable, rising prices will carry the tendency the other way, and when average prices have at last become stationary at seven and one half per cent. advance, American prints shipped to China, and British prints shipped to Calcutta, will have cost relatively fifteen per cent. less in abstract monetary units than the merchandise with which they seek exchange. Exchange will therefore run, in nominal prices, fifteen per cent. in favor of the Eastern monetary unit in which the prints are to be valued and sold in Eastern markets, and against the Western monetary unit in which their cost of production, including the labor and service represented by profits, is valued. This exchange debt, due in nominal prices from the Western, will be paid to the Eastern monetary unit by valuing the prints in Eastern monetary units, when they are sold to the Eastern merchant, at a nominal advance of fifteen per cent. This exchange debt of abstract units due the Eastern by the Western monetary unit is thus paid by adding fifteen per cent. to the monetary units in which cost of production is calculated. But on the other hand, and inversely, the Eastern monetary unit owes the Western a debt of fifteen per cent. in abstract-commodity value, or purchasing power: this debt, contracted by buying Eastern goods for Eastern money, is afterwards paid and balanced by selling Eastern goods for Western money. No loss therefore occurs: each merchant makes his own profits, and there is, as to merchandise produced exclusively in one country only, not even an apparent disturbance of the exchanges: the ratio of high prices balances that of low, and in turn that of low balances that of high prices. This balancing takes place with metallic-monetary units, precisely as it would take place with paper monetary units, maintained not only at precisely the same general or total volume, but also circulated, or in other words paid, precisely in the same nominal amounts with the metallic. In both cases it is a valuation by abstract monetary units, neither more nor less. But when a Western merchant ships silver or

gold to the East, or gold to the West, the case is widely different from that in which he would ship paper money, assuming that he *could* ship the latter to pay a balance, and be charged in money broker's exchange no more than the true difference between the purchasing power of the monetary unit of that paper, and the monetary unit of the country of the broker's market. In the latter case, he would lose nothing in the way of exchange, because after submitting to a nominal loss of seven and one half per cent. by the conversion of his paper into the monetary units of the market he buys in, he obtains a unit of seven and one half per cent. higher purchasing power than his own: he has neither gained nor lost by the mercantile exchanges, and all the resulting profit, or, should it occur, loss, is purely of a mercantile character, undisturbed and unaffected by the auxiliary monetary exchange. But when the merchant ships gold westward to pay a debt due for Western prints, he first obtains silver by selling merchandise at seven and one half per cent. higher rates in silver and therefore for seven and one half per cent. more silver than he can do now (prices not having risen yet), and exchanges that silver for gold at the old average rate of $15\frac{1}{2}$ for 1, which is certain to be restored. He thus obtains seven and one half per cent. more silver and therefore seven and one half per cent. more gold than formerly, and with the gold pays his debt for prints which he bought in a currency of fifteen per cent. higher purchasing power than his own, and therefore at fifteen per cent. cheaper rates than Eastern merchandise can be bought, making the total monetary exchange fifteen per cent. of abstract value in his favor, whereas it ought to be fifteen per cent. the other way, in order to balance the monetary exchanges of the abstract units. While therefore the mercantile exchanges, as far as the abstract monetary unit alone is concerned, exactly balance, by setting off high against low, and then low against high prices, where Western prints are shipped East, sold for Eastern money, and reinvested through that money for teas shipped westward and sold in Western markets, or by setting off low

against high, and then high against low prices, where teas are shipped westward and sold, and, through the money proceeds, reinvested in prints shipped eastward and sold in Eastern markets, the exact contrary occurs through the inverse and adverse exchange of the bullion market where gold or silver is shipped. The seven and one half per cent. debt due in purchasing power by the Eastern to the Western monetary unit is not only balanced, but a debt of seven and one half per cent. in addition is incurred in the opposite direction; or in other words, the seven and one half per cent. direct fall in purchasing power below former average, of the abstract Eastern monetary unit in Eastern markets, is converted into an indirect rise of that unit in Western markets, of seven and one half per cent. above average, by selling Eastern merchandise in Eastern markets for seven and one half per cent. more silver than formerly, after silver has returned to its old rate of 15½. It thus goes into bullion exchange for gold at old rates, with seven and one half per cent. more silver metal than formerly, and therefore exchanges for seven and one half per cent. more gold than formerly.

It carries therefore into Western mercantile markets seven and one half per cent. more gold than it formerly did for the same amount of Eastern goods: it has thus through silver made a barter gain in Western merchandise, if we eliminate the intermediate auxiliary exchange of money, amounting to seven and one half per cent., and a further gain of seven and one half per cent. in rise of gold, making in all fifteen per cent.

If on the other hand the Western merchant ships silver eastward, he has to sell seven and one half per cent. more merchandise than formerly, to obtain the same amount of gold as formerly, and when he has exchanged it for silver at old rates, he buys with that silver seven and one half per cent. less merchandise in Eastern markets than formerly. The barter exchange, eliminating money, is in this way converted into a loss of fifteen per cent. The gold unit is thus raised directly in purchasing power in the West, and through its rise the silver

unit is indirectly raised in purchasing power seven and one half per cent. throughout the West, as far as respects the payment of balances due from the East to the West, while on the other hand the silver unit is directly reduced and falls seven and one half per cent. in purchasing power in the East, and through its direct fall, the gold unit *indirectly* falls also, seven and one half per cent. there. To pay a balance due from East to West gives therefore a profit of fifteen per cent., and to pay a balance due from West to East entails a loss of fifteen per cent. The miner also gains apparently, but his apparent gain will not all go to him, nor will loss and gain all go to the merchant. The miner will lose indirectly as a consumer of Eastern merchandise, and the merchant will lose by adverse as much as he can gain by favorable balances, while all loss and gain will be more or less perfectly distributed. The loss will be not direct, but indirect upon all production and all commerce. Aside from money, the exchanges will vary more than they ought because trade will thus be made to vary more than it ought: loss and gain will be, because they must be, apportioned as evenly as possible; otherwise trade must stop. The difficulty of making an adjustment, in consequence of the opposing elements which enter into the problem, will sometimes throw loss or gain on one side and sometimes on the other, but a tolerable average will result. Actual loss therefore will lie chiefly in the discouragement of international trade and so far of production, by rise and fall in exchange, somewhat like the rise and fall of prices before and after a commercial crisis. I have given in various forms a demonstration of the fact that the metallic monetary unit of gold or silver falls in value and takes its bullion with it in the same proportion that it buys more labor and pays more profits of capital than it sells to consumers of the products of that labor and capital, and when the reaction of a commercial crisis sets in, and those products begin to go into the market of consumers, the metallic unit rises in value and carries its bullion with it.

I have also demonstrated in various forms the neces-

sity of keeping the metallic units of silver and gold in company, because their units are not units of commodities subject directly to the action of supply and demand, and are therefore without value in any commodity or mercantile sense. But the same is true of the paper monetary unit: that has no commodity value, and why then should the exchanges harmonize with paper units and not with gold and silver units, if neither has commodity value? I have already given the reason, but I will give it in another form for the benefit of the reader, for in order to understand the science of money and therefore of production and commerce, it is essential to have a *very clear* perception of the cause of the difference. That cause is primarily the fact that gold and silver in the shape of plate, utensils, watch cases, jewelry, gold foil or sponge, and many other things, is a commodity possessing mercantile value like any other commodity, except that its value in part consists of the conventional value of gold and silver, and is therefore only in an indirect sense subject to the action of demand and supply. Of this commodity or rather of these commodities there is a vast accumulation, equaling in quantity by weight probably one third of the total of each metal, and perhaps more, the remainder being in coin and bullion; both coin and bullion used as coin, together with gold and silver commodities, being subject to loss and destructive agencies, and silver more than one hundred times as much as gold, because the weight of silver produced has probably averaged more than one hundred times as much as gold. For this reason and because while both are money silver is the cheapest metal, the comparatively greater demand for silver commodities has brought and keeps silver up from say 40 or 45, to 15½ units of weight, in exchange for 1 of gold. The cost of all the gold and silver commodities is vastly greater than it would have been or could be now, if gold and silver were not money; and had they not always been money, a much smaller number of these commodities would have been in existence. The vast accumulations of gold and silver as money are a fund to supply

commodity demand out of the bullion of the units, and the vast accumulations of gold and silver commodities a fund to supply monetary units. The direct action and reaction of demand and supply upon the grand total of metallic commodities, as bullion (silver) becomes permanently cheaper and bullion (gold) permanently dearer or the contrary, in exchange for commodities generally, or temporarily cheaper and then dearer, through the agency of paper and credit money and bank loans, gives an average which changes but little, and, were it to change at all, so slowly that the ratio of 15½ and 1 is quite steady. It is steady because while naturally tending of itself to steadiness it has been fixed at 15½ and 1, and fixation of the ratio at this reasonable rate practically means that the action and reaction of supply and demand of metallic commodities tending of itself to bring the bullion values of such vast masses to a state of equilibrium, the natural tendency has been converted into certainty. No change in this demand is likely to seriously disturb the ratio, and if it does so, it must be very slowly. The ratio being fixed by common consent (excepting the United States) at 15½ and 1, this fixation and the natural tendency work together in harmony, and there they ought to be allowed to remain, until good reasons for a change appear. It is the mercantile value of the vast total of metallic commodities subject to the direct action of the forces of demand and supply, which give, not a direct and mercantile, but an indirect value to the bullion of the metallic units in bullion exchange, by taking more of one metal and less of the other, which will in time bring the bullion exchange to the old figures of 15½ and 1. The bullion of the metallic units in their character of money, and as money, has no mercantile value, because it is not wanted by consumers. If silver is (as at this time) fifteen per cent. below the ratio of 15½, the surplus silver can be disposed of by the hands of buyers in mono-silver countries very readily, although slowly, and the result will be nothing but rising prices, but it cannot be forced on consumers of metallic silver commodities any faster than they are able and willing

to take it. For commodity purposes, silver therefore will be worth the old rate, as soon as the surplus silver is distributed. It will make no change through its new distribution, except to make prices higher in mono-silver and lower in mono-gold countries, while the totals of metallic money, commodities, and production will remain the same except so far as they are injuriously affected by adverse exchange. The surplus silver will be worth nothing as money in the way of bringing any additional value into the exchanges, nor will the loss of gold take anything away; but when the surplus silver is carried from the bullion exchange, the mercantile demand for metallic commodities, which as a vast whole changes but little, will make it worth there as much as it ever was in gold, and that gold, when received in exchange, will buy seven and one half per cent. more merchandise. The solution of the complex problem is, that in the character of metallic commodities produced by the action of skilled labor upon the metal of the metallic unit, which unit has been obtained by sellers who have sold commodities, and for the most part, gold and silver metallic commodities, the metal of both units (gold and silver) is indirectly and to a limited extent subject to the action of demand and supply, and being so subject, the total metal of each abstract metallic monetary unit is limited by the indirect demand for its metal, by the ratio of $15\frac{1}{2}$ and 1, which is a comparatively stable ratio, while the direct action and reaction of demand and supply of commodities at large is limited to commodities at large, and has no reference to the metal of the metallic unit. Demand for commodities at large acts only on commodities at large, and is expressed in terms of abstract monetary units. If these units are metallic, and seven and one half per cent. in excess of their former average through the action of buyers in mono-silver countries, they carry their bullion with them in all mercantile exchanges, but that bullion has no relation, even indirect, to the demand for the commodities brought into the mercantile exchanges: the relation is only between commodities at large, expressed in terms of mone-

tary units. While therefore bullion exchange in a monetary point of view is abstract, in the sense that it is not a general mercantile exchange, but an exchange of one unit only of a commodity, for another, its average state is the indirect result of a mercantile demand for metallic commodities of gold and silver.

COMPLEX NATURE OF MONEY.

The subject of money is thus one of the most complex in the world. The principles of social science have, aside from money, been in a general way, as they necessarily must have been, developed, but the science of Production and Exchange cannot be said to exist in any perfect sense, without a true theory of money. The want of a true theory has given rise to a false conception of the effect of over-production or in other words inharmonious production, inconvertible paper, and mono-metalism. Mono-metalism would be well enough if it could be very gradually and slowly introduced by repeated recoinages, *the whole commercial world acting as one nation*, and still better, having one system of coinage, or systems readily convertible into each other. If any reasonable assurance could be obtained that the ratio of $15\frac{1}{2}$ and 1 could be as steadily maintained under single-handed mono-metalism, in all mercantile exchanges, as it assuredly must be in bullion exchanges, mono-metalism would be unobjectionable. The meaning of this in other words is, that when the units of the two metals part company through mono-metalism, if it were reasonably certain that fifteen and one half pounds of silver will upon general average continue to buy as much as one pound of gold, and one pound of gold as much as, and no more than, fifteen and one half pounds of silver, precisely as they used to do before they parted company; I say if it were as certain that they will continue to do this after parting company, as it is that they will upon the general average stand to each other in bullion exchange as $15\frac{1}{2}$ to 1, mono-metalism would be unobjectionable.

But because it is not merely uncertain whether they will, but on the contrary almost certain that they will not, mono-metalism is, without universal recoinage (admitting that to be possible), subject to the objections before mentioned. The two metallic commodities, gold and silver, have long been in use to furnish monetary units: each, except when and so far as manufactured into articles of merchandise, is money to all commodities, the other excepted. Each therefore remains and continues to the other what it was before either was money, and what it would still be, were each, from henceforth, to be no longer money. Each being commodity or merchandise to the other and to the other only, the range of commodity or in other words of barter exchange of each of these commodities is limited to the other, because as to all other commodities it is money. In order to understand monetary science, it is necessary to perceive in the clearest manner the truth of this proposition, and to follow it to its logical results. Because this proposition is true, single-handed mono-metalism is objectionable: the objection can be removed or answered only by showing that when the metallic monetary units of silver and gold part company, fifteen and one half pounds of silver will continue to buy as much and neither more nor less than it did on the average before it parted company, and that the same is true of gold. Silver and gold have therefore a very limited range of commodity or mercantile exchange, because it is coextensive only with the two metals themselves, although *apparently* they have a commodity value in general exchange. It is because this *apparent* fact is actually limited to the two metals themselves, while in all other exchanges the metal of each kind ceases to have any mercantile value and serves only more or less perfectly to maintain steady value or purchasing power in all abstract monetary units, by maintaining through its weight, which costs labor and merchandise, a uniform proportion between the abstract monetary units and standard units of commodities bought for or by consumers, that a metallic monetary unit is, with this exception, as abstract as one of paper, in its actual monetary function.

The seven and one half per cent. excess of monetary units in mono-silver countries will be excess, only because in mono-gold countries there will be a seven and one half per cent. defect: the excess is excess, only because on the other side of the exchange there is defect. These (excess and defect) balance each other exactly in the commodity or mercantile exchanges between mono-gold and mono-silver countries, and if the abstract monetary units were localized in paper which carries no valuable commodity with it and costs nothing, the monetary exchanges would balance, but because the abstract units, when they part company, carry with them a weight of costly metal, which, although costly, has no mercantile value in monetary exchanges, but only a conventional one arising from the service it performs, in localizing, limiting, and maintaining in steady proportion to units of commodities, the abstract units of money, the exchange, so to speak, is inverted; actual loss is converted into gain, and gain into loss. It is because the monetary unit has only an abstract and therefore not even indirectly any mercantile value, while its bullion has a direct mercantile value in the bullion market, that such a perversion of actual exchanges occurs. Metallic commodities of gold and silver have direct mercantile value as commodities resulting largely from the conventional value of those metals, but gold and silver have no direct commodity value in bullion, except as between and relatively to each other. This direct commodity or barter value of the two metals in bullion exchange has, upon close analysis, an indirect relation in one sense to the mercantile value of gold and silver commodities, and in the opposite sense a direct relation to the value of monetary units limited by the bullion of each metal, in all monetary exchanges made by such units. The relation to gold and silver commodities is indirect, because the demand for the latter is supplied, not by buying raw metallic material, out of which to manufacture gold and silver commodities, but on the contrary by selling commodities manufactured out of gold and silver, for monetary units limited by and containing gold and silver

bullion by weight, and manufacturing the latter into metallic commodities; and when this occurs, and only then, unless metal is lost or worn out by abrasion and chemical agencies, does the abstract monetary unit limited by metal vanish, or in other words then and thus only does the volume of abstract monetary units limited by the two metals contract. When one unit of either metal thus vanishes, the whole volume of units of both metals is contracted in proportion, and the purchasing power of each abstract unit potentially increased in proportion, without regard to the kind of metal, whether gold or silver, as long as the two metals are in company, because the natural tendency to equilibrium, which would always maintain a vibration of value on either side of equilibrium, is *fixed* as far as purchasing power is concerned, by *fixing* the ratio at $15\frac{1}{2}$ and 1. This fixation then reacts and makes the ratio, already stable for purposes of purchasing power, stable also as nearly as can be for commodity or bullion exchange, at $15\frac{1}{2}$ and 1. The actual variations, comparatively unimportant in themselves in reference to purchasing power (although, it must be admitted, objectionable if unavoidable), are thus reduced to a minimum. If the ratio were not fixed, variations more important, in reference to purchasing power, would accompany still greater variations than now exist in ratio. While therefore bullion exchange has only an indirect relation to gold and silver commodities, because raw material is supplied indirectly by sellers and not directly by buyers, it has through the natural tendency to equilibrium of the ratio resulting thus indirectly by the action of sellers to supply demand for gold and silver commodities, and the fixation of that tendency at $15\frac{1}{2}$ and 1, a direct relation to the limitation of the abstract monetary unit by the weighty and costly material of two metals in unvarying proportion. No values of any kind can be found, which on the average are as stable as those of gold and silver reckoned in each other. This fact, and all the complex facts which lead to it in causative order, being clearly perceived, then it follows that the abstract monetary unit always limited

by silver of fifteen and one half units of weight, while that of gold is always limited by one unit of weight, will each buy indifferently, when in company, the same value in merchandise; but when they have parted company, they may or may not; and if they do not, their abstract units, having parted company at the same time, must carry their bullion through bullion exchange, which on the average never varies, although they may vary in proportion to the volume of commodities they exchange, and the action and reaction of mercantile demand and supply expressed in each of them as a medium.

If the theory of money which I maintain is sound, why has it not been generally adopted? There are various reasons, but the principal lies in the direction indicated by M. Say. If gold and silver are, in the character of plate and other merchandise, commodities, why are they not, as writers affirm, always such; and why not as much so when taken in exchange for all commodities, as when taken for each other only? The difficulty lies chiefly in a metaphysical quarter. It is hard to perceive practically the real and true difference between special commodity or mercantile value existing in two or more commodities relatively to each other, which is special value controlled by the forces of demand and supply, growing out of two or more special human wants, and the special means (commodities) of supplying them on the one hand, and all wants and all means of supplying them in the abstract on the other hand; the former being special, and the latter generalized or abstract value. The difficulty is really mental or metaphysical, and very hard to surmount. It has been objected to my theory that I eliminate all value from money. Nothing can be further from fact: on the contrary I give to money the highest form of value which can be possessed by anything. Because metallic money has no mercantile, it does not follow that it has no value; it only follows, if it has value at all, as unquestionably it has, that the value is of a different kind, and undoubtedly of a much higher kind. All values are founded on human wants, and those wants

are, leaving out absolute necessaries, the result of civilization, and they are the creation of the human intellect. Value of all kinds is an estimate made by the human intellect, and acted upon by men in the character of buyers and sellers, and sometimes of barterers. In money, metallic money especially, men have the highest kind of value conceivable, but it is abstract, that is the proper word, or generalized, if that word be preferred. The same intelligence which creates special value can create generalized value, and has created it in the form of money: the creation is not independent of the previously existing law of mercantile value, but in harmony with it: that law is the law of proportion by which special commodity values are governed perfectly, and abstract values, more or less perfectly. Here lies the great difficulty in understanding money, and the chief reason why it is not understood. The general principles of sociology have been established as well as they could be under a false theory of money, but so far as relates to money, they are chaos itself. There has been all the time, however, the perception in some degree of a logical necessity for a basis of value of some kind, and it has until of late been placed in labor for the most part: perhaps economists are thus far evenly divided upon the subject. But what is the alternative measure offered by those who reject labor as a measure? Nothing whatever. The difference between economists is merely that some maintain that labor is a measure, and some deny it, but offer no alternative. Those who make labor a measure are therefore the most logical, or rather they perceive most clearly the logical necessity of finding some measure. But what does the measure itself amount to, were one to attempt, as I believe no one has yet, to apply it? It amounts only to this, that labor is a measure of values in the sense that if men cannot live with average comfort and satisfaction at one employment, the natural tendency is to leave it, and therefore they will do so as long as they can do better by doing so; or, in exact mercantile language, they cannot work and find capital, unless they can get at least cost of production.

This is undoubtedly true, and it means that the producer, after consuming what he needs of his own product, must be able to exchange the surplus at cost reckoned in other products at cost. The logical defect here is, that the particular process by which the exchange of the products takes place, whether by barter or money, is not intelligibly demonstrated, or even indicated. The law of proportion in barter has never been pointed out, and still less in money. Some kind of proportion and some law of proportion must exist, and must be followed, in order to make the exchanges. The tendency referred to exists and has its full effect, but it is no practical measure of values between one commodity and another; it is merely a tendency, and that measures nothing.

There is therefore no difference in reality between these writers, because all of them claim and maintain that gold and silver are, in a commodity or mercantile character, a general measure of values.

Tested by rigorous analysis, this supposed general measure is really no measure at all in any sense which the human intellect is capable of understanding. The only difference therefore between those who affirm, and those who deny, labor to be a measure of the value of commodities, the precious metals included, lies in the fact that those who affirm perceive, more clearly than those who deny, the necessity for a measure of some kind, but nevertheless, instead of finding a measure applicable to every particular exchange, find only a general law or tendency which determines only whether the particular exchange shall take place at all, and not the mode of measuring the terms of it, if and when it takes place.

Intellectual processes which relate to consciousnses are hard to trace, and so also in a less degree those which relate to daily business, like buying and selling. The latter are made so familiar by custom, which is second nature, that it is difficult to believe that they involve the most complex of all problems, because they involve not only the question of value in the abstract,

but also a mental perception of that kind of value, as well as the difference between it and mercantile or commodity value existing in metallic coin, outside of any relation it may have to paper or credit money, and between the latter viewed in the light of pure abstract or generalized value, and metallic coin, both in that light and in the light of commodity. This is the principal reason why the true nature of money has not yet been *established* as matter of science. It is one of those cases in the history of civilization, where erroneous speculative opinions (and such are opinions as to the true nature of money in a scientific point of view, as a creation entirely of the human intellect) have had a vast influence upon society. That money of all kinds has abstract or generalized value in the sense defined; that its object could not be attained if it had any other kind of value; that it is not subject directly to the action of demand and supply; that its use is conventional, in the sense that it depends upon the consent evidenced by the acts of those who use it, and cannot be controlled by governments upon any other principle; that its use being conventional its abstract value is conventional, and hence its value as bullion converted into commodity is dependent, as to cost of material, upon abstract monetary value estimated in all commodities, and the latter upon the total number of its units and the amount of circulation accomplished by them; and that as money it has no special commodity value whatever, are propositions which are not only true, but I have here and elsewhere demonstrated them to be true.

Gold is said by most writers to be a stable measure of value. Nothing can be further from the truth in England and the United States. Gold in England and the United States is constantly varying, and its variations have led to the remarkably suggestive financial schemes of Professor Jevons and others. To make such a proposal logically involves a denial of the proposition of M. Say: it is *in effect* saying what I have been saying in various forms. If gold has commodity value instead of abstract value only in the character of a gen-

eral medium, the amount of metallic merchandise due by bond, bill, note, or book debt, cannot be varied by law, without spoliation. If a merchant under a sound monetary system sells merchandise to another merchant, and it rises, it is the incidental gain of the latter, and if it falls, his incidental loss. Rise and fall of demand aid in equalizing loss and gain. The same law applies to money lent: the money lent is the proceeds of goods sold, chiefly to or for consumers, in the absence of banks. The money, when lent, cannot possibly fall in value stated in commodities at large, or even in leading commodities only, unless its volume is increasing and has become larger in respect to all merchandise when the loan matures, than when it was made. In that case, equalization is impossible, because the borrower may have sold on a rising market, goods bought with the money, or, having bought, he may be unable to sell, because a commercial crisis has intervened. To equalize losses and gains extending over a period of ten years between one commercial crisis and another would be as impossible as to create a world. To interfere at all would be injurious, because the equalization naturally resulting through buying and selling, borrowing and lending, rise and fall, is not merely the best, but the only possible equalization which can take place *post facto*. If prices rise in mono-silver and fall in mono-gold countries, the principle of fequalization and compensation is the same, but the rise and all will be so slow that compensation will be approximately perfect, while in the other case it will be altogether imperfect. In those cases where rise and fall occur within short periods, in London as the great centre of international trade, the principle is the same, but an attempt at artificial equalization would be less injurious.

The really important point in this connectionpis, that writers of thought have in effect abandoned the prevailing theory of money, whether they are willing to admit in terms that they have done so or not. Nothing can be more variable than gold in London; and why? Because it varies with bank loans and purchases of labor,

raw material, and necessaries of life, made with the proceeds of bank loans in the shape of monetary units. The expansion of circulation of these raises or expands general prices, and the taking of raw material and necessaries out of the market, by buying, contracts the volume of these, to be bought at current price, and prices therefore rise, while gold falls. The fall is not in gold as a commodity, but in the purchasing power of the abstract monetary unit, whether assumed to be embodied in gold, paper, or what is called bank credit; and it always carries gold with it in its fall. The true remedy lies not in an attempt to equalize losses and gains, after they have occurred, but in keeping the monetary unit from losing value, except through the direct and legitimate action of demand and supply upon particular merchandise, in contradistinction to merchandise at large, by limiting the cause in the shape of bank loans. Adam Smith was a man of extraordinary sagacity, and in spite of a false theory of money, he laid down the sound rule that the reserve of a bank of issue ought to take care of itself, and would do so, if the return current by payments of bank loans were equal, within short periods of less than a year, to the outward current by loans: this would keep the metallic units in definite proportion to the paper units. The same principle applies in all banking: the reserve ought to be kept at a minimum average to loans for periods less than a year, not in some, but in all banks, in order to limit loans everywhere by one universal law. Metallic money is the only money which *can* maintain steady prices, but it does not in England and the United States. To take the monetary units of gold out of deposit every day at clearing centres, and return them again the same day, would be a useless business, and therefore to save time, expense, and risk, they are allowed to remain, unless wanted for retail or international trade. A much larger reserve is kept than needed to meet actual calls, and without any resulting benefit, if the mercantile theory of commodity value in money is true. To keep less would be quite as well, if it be true, that commercial and banking crises do not

arise from an entire absence of all effective regulation of bank loans. If Smith's law operated upon all American and English banks of deposit loan by self-regulating machinery, as it did upon the Scotch banks of issue of his time, and as it would now operate upon all banks of issue properly regulated, if they had not the function of deposit, banking crises would be of a very mild character, if they came at all. All bank loans, with comparatively few exceptions, are made to *buyers*, who buy labor, raw material, or merchandise; and whether they do the one or the other, they are in a true mercantile sense producers. All sellers who sell for cash not borrowed sell to or for consumers. To sell labor is not to sell a commodity to a consumer. If the seller of labor could be and were always compelled to give the buyer an effectual guaranty, that the merchandise his labor produces will go within less than one year into the hands of consumers in exchange for cash (money not borrowed) received by them for merchandise sold to consumers, then the mercantile exchanges would balance the money and labor, or wages exchanges, within reasonable periods, and Smith's law be maintained without serious commercial disturbance. The true object of a reserve, then, is, not only to furnish to all who have demands against the bank a kind of money good all over the world, but also, by stopping loans of all money in deposit at one and the same point, to maintain harmony within short periods, between producing consumers' exchanges of merchandise, and the exchanges of *borrowed* money for all labor employed in producing any part of that merchandise. A reserve of gold costs merchandise, and if one of twenty per cent. against loans were maintained everywhere upon the average of eight months, this would guarantee that as far as bank loans made within that period are concerned, the results of the purchased labor will find cash buyers who are producing consumers, and who have bought those results, either in the shape of merchandise they needed, to actually consume within that time, or in the shape of merchandise, which has since assumed another shape, as fixed pro-

ductive capital. It is utterly impossible for a banking and commercial crisis to *happen* from any other cause than human agency through the action of *buyers*. The periodical "mania of speculation" is only the result, the necessary sequence of the upward movement of the productive forces. Production and commerce are the moving causes, but through the agency of bank loans and rising prices they move too rapidly and move too far: they move so far that a severe reaction is unavoidable. The only practicable remedy, if the human intellect (in writers and statesmen) attains to the true theory of money so as to perceive the necessity of it, is, to make use of the remedy to be found only in metallic money when left to its natural circulation through commerce, by limiting all bank loans by that circulation at a fixed average. The laws governing value of both kinds — mercantile and abstract — ought to be carefully studied and applied.

If a manufacturer of cloth makes more cloth than he can sell to consumers at cost, the excess has unquestionably cost him more, in money, than the same amount produced before there was any excess. He cannot afford to sell it for less than it cost him in money, because he borrowed the money which it cost him to produce it. On the other hand, consumers who like him are also producers, are unable to buy the surplus at cost, because unlike him they have nothing to sell, in order that they may be able to buy it: it is this very inability on their part, which makes it surplus in his hands. The surplus therefore is worth nothing at all, except so far as production of the kind which has surplus may or will fall off in future, and the producer can keep it out of market by loans. The natural tendency of the surplus is, therefore, to fall towards zero in value, and this is the proximate cause of banking and commercial crises: the ultimate cause is rise of prices, which proceeds at equal pace with the surplus itself. This is the sole original *cause*, although there are auxiliaries which aid, and *conditions* which are essential to enable the cause to operate. The first condition is great national wealth, and much

wealth in few hands, such as we find in England and the United States. This inherent law of mercantile values aside from money, and the postponement of its operation through monetary values which are inverse to the former, and through their inverse action make overproduction profitable for a time, is the first and most important fact to be kept constantly in view. When bank loans rise, bank credits rise: when bank credits rise, the volume or number of abstract monetary units required to buy a given quantity of any kind of merchandise rises. This number (of monetary units) rises, as number of units of surplus merchandise held by means of bank loans rises, and in exact proportion to it; and in exactly the same proportion by which the number of monetary units paid for merchandise thus increases, does the purchasing power of each monetary unit fall and carry gold with it. Merchandise does not rise in value because gold falls, or in other words the fall of gold as commodity is not inverse to the rise of other commodities reckoned in gold, as Professor Jevons asserts, because gold, in the character of commodity, can by no possibility either fall or rise in any commodity whatever, except in silver, in bullion exchange. The rise of commodities in gold and the fall of gold in commodities in London therefore, to which Professor Jevons refers, and which he, following the example of others, most suggestively and with great vigor of thought, in spite of his standpoint from the commodity or mercantile theory (of money), proposes to equalize in the manner stated, is a fall in the purchasing power of the abstract monetary unit, whether we regard it as a mere unit standing to the credit of a depositor in some one of the many banks in London, a paper unit with gold behind it in the issue department of the Bank of England, or a monetary unit evidenced and limited by the gold bullion of a sovereign, in the pocket of a laborer who has just received it as wages. Whatever shape the unit may appear in, it has lost average purchasing power precisely in the same proportion by which the unsold products of labor (unsold to buyers with money not borrowed) have

accumulated in the markets above average, because precisely to that extent have bank loans, or in other words bank credits, accumulated above average.

It is hard to get rid of the idea that there is an actual fall or rise of gold, as bank loans rise or fall, the fall of gold being *apparently* inverse to the rise in volume of bank credits, and the rise of gold inverse to the fall in volume of bank credits. But nevertheless it is utterly impossible for any one commodity to fall equally in all other commodities, or for all other commodities to fall equally in that one commodity, unless in the former case the supply of all commodities but one (surplus kept out of market aside) falls equally short of, or in the latter case rises equally above, average, according to the principles controlling barter exchange which I have heretofore demonstrated. It is fall and rise in the purchasing power of the abstract monetary unit; and gold being the currency, the unit carries gold with it, instead of gold carrying the unit. It is a fall in the purchasing power of an intangible unit called money or the unit of commodity value in the abstract, which is in the absence of all banks and all paper and "credit" money limited by its accompanying bullion, in point of possible numbers as compared with commodities, with almost mathematical precision, if the units of gold and silver are not allowed to part company. The only remaining possibilities of deviation lie precisely in the line where Adam Smith's sagacity placed them, in bank loans, where the perfect limitation furnished by the bullion to the total number of metallic units throughout the world is lost, by loans not only very largely in excess of those possible in the absence of banks, but so excessive that nothing but a banking crisis checks them and brings about a tolerable average, which ought rather to be maintained by a reserve kept at average. The mode in which valuation by means of the abstract monetary unit takes place is this: gold and silver go into universal circulation by the hands of the first *buyers*, who put in circulation, through buying, all the gold and silver not carried to commodity use by *sellers*, who by *selling* gold and silver

commodities procure the gold and silver monetary units, which they work up as raw material into gold and silver commodities, to replace those *bought* by *buyers* who are consumers of those commodities. This production and consumption brings the commodity or barter exchange of gold and silver, which otherwise might stand as 40 to 1, to 15½ to 1. The monetary units which go into general circulation are — banking and paper money aside — *paid* chiefly by buyers of commodities for consumption, to sellers of commodities for consumption: no matter how great the energy of production may be in any quarter, it is held in tolerably even average by the impossibility of making loans to one class of producers much faster than other producers are able to buy the product, with cash realized out of sales of their own products. This and this only keeps the circulation of the metallic unit of either kind in payment of wages and profits, before actual consumers are found, so limited that prices, and therefore values, are kept steady, and supply and demand have their legitimate operation. Under an almost perfect limitation of the total of units and a natural circulation of this kind, if the metal of the gold unit is divided into dollars or pounds of standard weight, every commodity or article of merchandise purchased, whether at wholesale or retail, is valued *absolutely* in dollars or pounds and fractions of dollars or pounds, which are given and taken as equivalents of commodities; and taking the average of all its variations as absolute average price, the variations on each side through the action of demand and supply are the relative variations from absolute average. Applying this principle to all commodities, the difference between absolute prices of all commodities bought and sold gives their relative values reckoned in absolute price, with all their variations and averages as affected by the reaction of demand and supply between them. If the supply of one commodity falls short of average and rises in price by the action of demand, the rise of price acts with more or less effect, as the commodity is more or less one of a staple character in the way of diminishing demand, and demand, thus di-

minished in that quarter, reacts more or less in favor of other commodities. The same kind of valuation takes place where capital, labor, or services of any kind are bought with money. That the metal (gold for instance) in which all commodities, capital, labor, and services are thus valued, whether in dollars, in pounds, which, having nearly five times as much gold as the dollar, can furnish out of all the gold coin in the world a little more than one fifth the same number of monetary units and are therefore worth on the average nearly five times as much as the dollar, and more than twenty-five times as much as the franc; that the metal gold, I repeat, is that in which these valuations are *apparently* made is true, and if this were really so, it would then and thus have only a mercantile or commodity, in contradistinction to a conventional or abstract value, which is value of a much higher kind. But it has been demonstrated that the apparent is not the real fact, because quantity of metal has not any absolute importance, and that it has not, is conceded by Professor Jevons's proposed equalization of payments. His plan, although impracticable, and from the standpoint of mercantile value absurd, is nevertheless founded on equity. It is of no value as a "practical" plan, but eminently valuable as a practical concession by a very able thinker of the utter falsity of the apparently but not really true mercantile or commodity theory of money. If gold fluctuates so much in London as a great international mart, that mercantile London as a whole is in an almost panic condition to-day, from the efflux, and in a condition precisely opposite to-morrow, from the influx of gold (all of which arises from the *constant variation of that invariable standard called gold*, which requires, in order to equalize payments made in that invariable standard, an invariable rule of equalization of that standard, by an average equation of payments, made by subtracting gold if gold goes up, and adding gold if gold goes down), it is certainly high time of day to inquire whether rigorous analysis of the mathematical and the metaphysical, or perhaps psychical, laws which underlie the mental process of valuation by money, is not de-

manded. The idea of money is so constantly before the mind that it is one of second nature, so to speak, and hard to analyze. Nothing can be more familiar, and all values are, as it were, instinctively thought and stated in terms of money. It is hard therefore to make a searching analysis of the laws of value, perhaps impossible for most men. There is however one unanswerable "practical" argument, the force of which can be perceived by most men if they choose. If silver coin could be reduced in bulk and weight seventy-five per cent., everybody would agree to it and hail it with satisfaction, allowing governments to keep the surplus weight from generation to generation, or even to cast it into the ocean, but this cannot be done without inflicting greater evils than it could cure. And why? Because even if all silver bullion were cautiously and effectually guarded from the mines to the mints, the temptation of melting down silver plate and counterfeiting the light coin would be too great to be met and counteracted throughout the world. If gold and silver had not a high commodity value in the character of plate and other commodities, resulting to a large extent from their conventional use as money, governments might make their coins light by definite proportion, rejecting the superfluous metal; but as one third or more of all silver and gold is in the shape of commodities, thus maintaining the ratio of $15\frac{1}{2}$ to 1, the present weight of the silver as well as the gold unit must be maintained, not for the sake of the metal, as M. Say and all writers so far as I know (save Professor Jevons and those who agree with him, thus logically excluded in virtue of this plan of equalization) affirm, but in order to maintain the purchasing power of the abstract monetary unit, as evenly as possible. This unit must necessarily vary more or less at all times through circulation, and carry gold and silver with it everywhere under all monetary systems, because although taking all production and all commerce as a whole, and the total of monetary units thus effectually limited and kept at an average as a whole, varying as they do but little with the average of

all production and commerce, the purchasing power of the unit is thus brought to a general average, which can only vary with the average of commerce, still there must be some local variations. Now the plan of Professor Jevons is, to bring these local variations to an average in the manner already explained: my plan is to bring them to an average by the rule laid down by Adam Smith — to make the equation of payment perfect of itself when payment is made, by regulating the chief factor or original cause of variation. My plan is to bring into operation both in England and the United States, as far as practicable, Smith's law of proportion between metallic and other monetary units, by making the metallic bear a definite proportion to the others in circulation, or in other words to make the economy, that is to say, the quantity of metal in the reserve, bear a definite proportion to loans within periods less than, if possible, and certainly never exceeding, a year. This would make all payments into banks within the year average with all loans made in that time.

Bi-metalism follows logically from this theory of money, and that established in company with the system I propose, issues of irredeemable paper aside, there would then be such a due proportion maintained between the purchasing power of each monetary unit and the bullion of the metallic unit, that M. Say's proposition, although not directly and logically true, might be considered as indirectly true. To understand money *clearly*, we must perceive that the terms Demand and Supply, which relate directly to mercantile values, have no direct but only an indirect relation to money, and that gold and silver as money cannot rise and fall. The only rise and fall in money is the rise and fall of the average purchasing power of the abstract unit. This fall of the unit stimulates production and gives apparent, and not only apparent, but real prosperity in the creation of new values. If it did no more it might be well, but it goes so far under ill-regulated banking, as to create an excess in some quarters which can only regulate itself by stopping and reducing production in

those quarters, and increasing production in other quarters. My plan is, to regulate excess by limitation, before it goes to the point of a severe banking, commercial, and industrial crisis. Professor Jevons's plan goes no doubt upon the sound opinion that the grand objective point of all monetary systems is steadiness in the purchasing power of money: he calls this the purchasing power of gold; I call it the purchasing power of the abstract monetary unit, which purchasing power increases directly with the decrease and decreases directly with the increase in the number of monetary units, whether covered by book entries and checks, bank notes or gold, given in exchange for a given number of standard units of commodities. His plan virtually concedes the falsity of the theory of mercantile value in money, while in terms affirming it; my plan is avowedly placed upon the theory that money has no such value. Rise of prices has always been in a popular sense commercial prosperity, and fall of prices the reverse. Professor Jevons proposes a reformation of the evil resulting from allowing that rise to be carried too far, and so do I; but his theory of money forces him to make the reformation rather an attempt at rectification of the evil after it has happened; my theory forces me to propose Adam Smith's plan of not allowing the evil to happen at all, if it be possible to prevent it. My theory demonstrates to me the impossibility of any rectification by equalizing payments in gold, because the equalization, even if practicable, could not be extended back far enough and made sufficiently comprehensive. My theory of money leads to the conclusion that commercial crises arise from wages paid labor and profits paid capital through the agency of bank loans, in advance of sales of their products to actual consumers who have cash not borrowed, to pay for them, in such excess that a crisis is the only process of rectification. How can the wages of labor and profits of capital be equalized after nine tenths of their total have been actually expended in maintenance? The only possible rectification, *post facto*, is that which

naturally results. The banker whose money has been losing purchasing power, after being loaned by him and before payment, must have his losses partially made up, when purchasing power is on the gain. The merchant who has lost has also made money by buying upon a rising market, and he must equalize his losses and gains as best he can, upon a falling market. Complications arise from the issue of a large volume of irredeemable paper, as during the late civil war in the United States. Looking at the actual difference between the purchasing power of five dollars in gold in the United States and England during that period in the way of ordinary expenditure alone, the premium on gold ought to have been seventy-five when it was only twenty-five, but there were many causes operating to make the latter the actual premium. To those who wished to emigrate or live temporarily abroad, the premium might have been justly seventy-five instead of twenty-five, but only a small number of people compared with the whole wished to go abroad. Again it was a profitable business to import and sell foreign goods, but a tariff acted as a tax on the goods, and the variation of premium required a large margin to be deducted from the gross premium of the day, to determine the net premium, the difference being a costly guaranty fund contributed by the consumer, as an indemnity to the importer against the risk of adverse variation in the premium before domestic sales could take place. The actual premium was therefore all that ought to have been or could be paid, and it was the result of a vast number of favorable and unfavorable elements of computation.

But the tendency of the gold was to go abroad, and so it is in England and the United States when prices are rising before a commercial crisis, and also when raw produce is rising in London as a great international mart under the influence of bank loans. The tendency of gold to go abroad under these conditions is not as great however as generally supposed: there is, notwithstanding the fall of gold through the agency of bank loans, a

vast number of elements tending to loss as well as gain from an export, and the whole problem resolves itself into an average. The average value of the gold monetary unit in England and the United States, under their systems of banking with variable reserves, is perhaps very nearly the same as in France, but the variations from average are much longer and greater than in France. If a system of international paper money which would cost comparatively nothing were in use to the exclusion of gold and silver, assuming that the paper could be and were maintained at such a volume everywhere, as to keep the monetary unit as steady in purchasing power as with the use of gold and silver, local currencies of paper being issued by banks having a reserve of international paper, the variation in the purchasing power of the abstract monetary unit limited by international paper would be controlled in Great Britain and the United States by the variation in bank loans, and would rise and fall so as to maintain the same average as gold does now. The true objective point would be the same as now; not a valuable commodity, as gold is supposed to be, but steadiness; and this point would in that case be more likely to be perceived by writers and bankers, because it would more readily be noticed that the value of the international paper unit was altogether generalized and abstract, the paper itself possessing no intrinsic value. To maintain such a volume of paper would be impossible, but it is possible to maintain such a volume of gold and silver, although the possibility fails to be carried to the point of reality, through the illusion of commodity value. It has been seriously proposed by able writers in the United States to allow no paper money to be issued except by the General Government, under the influence of this same illusion. Adam Smith's sagacity led him to lay down the rule that the whole volume of paper money in circulation in any country ought not to exceed in amount the total volume of gold and silver which would be found in circulation, if there were no paper money, and with a proper allowance for the increase in the total of all circulation caused

by the paper in addition to that of gold and silver, he was right. If he could have foreseen the future of deposit-loan banking throughout Great Britain, and then, instead of laying down the rule as he did, had simply stated that gold and silver ought to be kept by all banks in a definite proportion to their loans, varying from average within periods less than a year, he would have laid down the true rule for all banks, and furnished on the very face of his rule the reason why no government can with propriety issue paper money except at one time only and to a definite amount, much less than the volume of all money ought to be under any and all circumstances, except for the very purpose of raising prices and making a false show of credit, thereby stimulating production also in time of war. If gold and silver were the only money of the United States and there were no banks, there would of course be some variations in the total circulation through loans as well as some variation in the total average of all money in circulation, independently of loans: the only material variation however would be in loans. It is precisely because the General Government cannot go into the business of loaning money, that it cannot in any other manner issue paper money. To issue paper money is to loan it for the first time, or to pay it out directly to laborers in the character of soldiers and to producers who furnish stores and munitions of war. At this time all the employees and payees (bond holders) of the General Government receive what is due them by means of taxation. How then is it possible for the General Government to issue paper money in the variable proportions required by ordinary production and trade, and keep a duly proportioned metallic reserve, without going into banking on a gigantic scale? That the General Government might with great propriety become the *maker* of all the paper money of the country, issuing it to any extent demanded by banks in exchange for its bonds taken as collateral security, there can be no doubt. The General Government ought in that case to redeem all its notes so issued on demand, but that alone would not suffice. The banks

ought to be required to keep a consolidated reserve under the management of a bureau of the sub-treasury, in a proportion varying from average only at short intervals, each bank furnishing its quota of reserve in proportion to notes issued to it, and the General Government causing all notes redeemed at its sub-treasuries to be redeemed for itself out of the consolidated reserve; the notes issued to each bank being properly designated, and engraved with the name and State of the bank receiving it. This would be both a government and bank note under one form.[1] With deposit-loan re-

[1] This would be the most perfect form of paper money ever yet devised. Practically it would be of little consequence whether it were made legal tender, through an amendment of the Constitution of the United States (for I do not believe Congress has the power to make paper money a legal tender in time of peace) or not. There could be no valid objection to the United States becoming directly liable for so much paper: it would be merely an exchange of one form of government debt, in the shape of interest-bearing obligations, for notes without interest, and the government would always have ample security in its own hands. If the reserves for redemption of these notes were consolidated and placed in a bureau of the sub-treasury, all the national banks would thus, for issuing and redemption purposes, be converted into one national bank, while at the same time local banks for all the purposes of local business. Under such an arrangement, the reserve of each bank, because under the control of the government, should be credited to it as so much actual cash, and government interest-bearing obligations released and delivered to it, *pro tanto*. The banks would then have, as far as notes are concerned, no dead capital in the shape of a redemption fund, as they always must have, when they keep that fund in their own vaults. Such a scheme as this might, fortunately, lead to the abandonment of the proposed mistaken plan of government notes, to the exclusion of bank notes. If Adam Smith ever proved anything whatever in monetary science, he certainly proved that paper money, if intended to supply all the needs of production and commerce, must first be loaned or issued by banks. Adam Smith's demonstration was published more than one hundred years ago. I say demonstration, because it is usually called by that or an equivalent name. It was not really a scientific demonstration, because no sound demonstration can be founded on the false hypothesis that money has mercantile value, but it was practically sound. The demonstration, including propositions implied, as well as those expressed, may be thus summarized: Gold and silver are valuable as merchandise; they are the money of the whole commercial world; they are measured in value by the labor it cost [if one really believes in the mercantile theory of money, whether he believes in this measure or not, is of no consequence] to place them in the shape of money, where they are now found. But paper money evidently performs the same function, and yet it costs nothing. The volume of paper ought not, therefore, to exceed that of the gold and silver it displaces, and hence those who issue the paper

serve of twenty per cent. and bank note reserve of twenty per cent., the whole currency of the United States in the shape of gold and silver in actual circulation, government-bank notes, bank loans, and bank debt in the shape of deposit credits, would then vary as a currency of gold or gold and silver, without any bank loans whatever, would vary.

This expression — variation of gold — was introduced by the authors of the English Bank Act of 1844. It is a proper one, but its meaning in the minds of the authors of that act, as well as of Professor Jevons, is the variation which he proposes to correct by an average, because it is so excessive as to demand it. The variation of gold under the conditions I have named would require no such average, because it would be a fair average of itself.

The excessive variation of gold arises from an excess of loans expended in paying the wages of labor and the profits of capital, before they have found cash buyers

must issue it by loans in such quantity that the metallic money they keep to redeem with will maintain the same ratio to their loans on short averages. But to keep such a reserve and to make such loans constitutes a bank of issue. Paper money therefore, unless issued *once for all*, in quantity less than would be the quantity of metallic money in its place, must be issued by banks: in other words, paper money, in countries where it constitutes the circulation for the most part, and goes into circulation by loans to the producing and commercial community in amounts sufficient to meet their real wants, neither more nor less, must first be issued by banks. To keep a reserve moreover, duly proportioned to outstanding paper money, is to keep a reserve duly proportioned to loans, because by means of loans only can the paper go into circulation.

This is in substance Adam Smith's demonstration: it may be applied to all banking, because a credit in a commercial bank, following a loan, has the same effect in putting money in circulation, as a loan in bank notes actually carried away from the issuing bank. The corollary therefore from Smith's demonstration is, that metallic reserve ought to be kept in due proportion to loans in all commercial banks, and in short in all banks, whether they issue notes or not. But Smith considered metallic money a metallic commodity according to the apparent fact. If so, it is subject to the action of demand and supply, and bank-debt holders will demand all they want, and banks need keep no more. Smith's practical sagacity was superior to his logic in this particular. But Mr. Bonamy Price is logical and insists that banks need keep no more than customers demand, with a proper margin. This would probably be less than three per cent. in England.

who buy with cash not borrowed, in such excess that the natural-average variation of gold is converted into such an excessive one, that gold ceases any longer to have only that variation which naturally arises from the forces of demand and supply. It is this false theory of gold as an article of commerce, a commodity, and subject directly to the action of demand and supply, which has led to the proposed plan of the United States issuing paper money. The whole commercial world is, for purposes of trade, one country, with gold and silver for its money. The grand utility of this currency is steadiness in the value of the monetary unit, by whatever name called, and whatever may be the weight of metal accompanying it. The highest attainable degree of this utility is lost by a false theory of money. Even without any metallic money at all, and with a currency consisting altogether of paper, it would be desirable to have the absolute average value of commodities as stated in the abstract monetary units as uniform as possible. If a commodity under these conditions were stated upon the average in abstract value as $1\frac{1}{2}$ in the United States, it would be attended with more or less inconvenience to have the same commodity in England stated at 1 or even $1\frac{1}{4}$, because there would be a direct conflict between the valuations of those commodities (for instance, wheat, cloth, and iron) produced in both countries. Conflict could not be entirely avoided except in those commodities produced in one only of the two countries, although equalization would result on the whole. The conflict would not however be of the same character as now, with gold or any other commodity used as money, because there would be no commodity exchange to settle. Gold and silver now limit their abstract monetary units in a definite proportion to each other throughout the world by weight, with nearly mathematical accuracy. If the circulation of the abstract unit in and through payments of borrowed money to labor in wages, and to capital in profits, were as effectually limited by actual sales of their joint products to consumers or buyers with

cash not borrowed, as those units themselves are in point of number, by metallic weight, no equalization of the kind proposed by Professor Jevons would be called for. Add a little more gold to the sovereign and take a little from the dollar, and the value of the dollar is to that of the sovereign as 1 to 5, as long as respective weights stand as 1 to 5, because gold in coin can furnish five times as many dollars as it can sovereigns. But if there had never been any money in use in the shape of definite portions of a commodity by weight or measure, paper and "credit" money being alone employed, there would be no universal self-acting rule or limit to the number of monetary units which could be put in circulation by governments, banks, or individuals. The solvency and the good faith of the issuers would not in and of themselves furnish any limitation to the issues, because it would be impossible to have any test of arrival at the proper proportional limit, save that of rising prices. But that test is really the only one existing now with gold as the almost exclusive currency in London, because rising prices are looked upon and considered to be by everybody exactly what in point of fact they are, — the evidence of active trade, active production, and free consumption. It is impossible to arrest this activity and this freedom, and bring it to a tolerably even average within periods of one year, without checking and keeping at average the cause which brings rising prices.

If paper and credit money were the only money in use and the only money which ever had been in use, no limitation of number of monetary units by a mathematical standard of weight would exist, and hence there would be a double where there is now only a single source of variation. Where gold is used exclusively in banking reserve in London, expansion of circulation through banking is only imperfectly limited by the necessity of keeping gold enough to pay every check, and as receipts and payments vary slightly from day to day, London bankers keep much more gold than they actually require for such a purpose. If they kept

no gold at all, and nothing but irredeemable bank notes which cost nothing comparatively to the issuer, in their vaults, although the variation would be precisely the same as it is now with gold, looking at the entire range of prices upward and downward (ratio of variation), yet prices would rise higher and fall lower than they now do with gold. In other words, gold in London, in consequence of the prevailing theory founded upon the illusion that it possesses a mercantile or commodity value and consequently can never be put in circulation to excess, is just as variable as a currency of inconvertible bank notes: the only difference between the two lies in the range of prices upwards and downwards, one being just as variable as the other. It would be impossible to reach by analysis, in one single work or essay, all the errors and mistakes growing out of the mercantile theory of money. No one of these is more extraordinary than that which supposes a real fluctuation in the value of gold as a commodity. When the whole annual product does not reach a total of more than one and one half per cent. as against all the gold in the world used as money, and while upon the average general commerce must increase in that proportion, how a rise of general prices and a fall of gold to more than five times that amount can occur in London within the same period and not everywhere else, if gold really possesses mercantile value, is inconceivable. The fall as well as the subsequent rise must be in the abstract monetary unit through loans, which carries the bullion of the gold unit with it in its fall and in its subsequent rise, not only without regard to the quantity of gold in the world, but even to the quantity actually on hand in the United Kingdom, in England, or in London.

THE ABSTRACT-UNIT THEORY OF MONEY ALONE FURNISHES THE COROLLARY, THAT GOLD AND SILVER ARE INDISPENSABLE TO STEADINESS OF PURCHASING POWER THROUGHOUT THE WORLD.

Should mono-gold metalism become more and more fashionable, it might be desirable to prevent the abstract monetary unit from gaining so much as to seriously depress production through falling prices, by recoinage. It would be practically impossible to do this at once, and even if it were practicable, there would be too great risks. The scheme would be right enough in principle, but impracticable within short periods, not only for the reason that the gold so to be recoined possesses no commodity or mercantile value whatever, but for the further reason that in consequence of gold as money possessing no such value, while in the shape of gold commodities it does possess such value, the now existing limitation of the gold unit by its bullion would in a great degree be lost. The present values of silver and gold in the shape of metallic commodities arise largely from the average abstract or conventional value in commodities at large, which the metallic commodity melted and coined possesses. The value of the coin being conventional, the value of the metallic commodity depends much upon the maintenance of the conventional value of the monetary unit. If by the abandonment of silver the total number of all monetary units in the world were reduced twenty-five per cent., the value of all the monetary units in the world, whether credit, paper, or metallic, would upon the average rise twenty-five per cent., and carry all the bullion of gold coin with them. Recoinage would not be necessary in order to keep gold from rising *as a commodity* in mercantile value, because, having no such value, it is impossible for it to rise in that value, inasmuch as it cannot rise in a value which it does not possess, but it would be necessary, for the precisely opposite reason that it has no such value. It would be necessary in order to keep prices from rising,

and not for the purpose of keeping gold from rising. If gold were really a commodity possessing mercantile value, it would be entirely indifferent whether recoinage took place or not. If it were a commodity, the only material point would be that it had risen in value. Not being a commodity, the material point is, not the quantity of gold in and of itself, but the fall in the number of abstract monetary units twenty-five per cent., which has carried down prices twenty-five per cent., and thus rendered it necessary to increase by recoinage the number of gold units twenty-five per cent., by recoining with twenty-five per cent. less gold metal. The total quantity of gold would be precisely the same in either case, but without recoinage there would be a fall of prices in gold twenty-five per cent., while with it there would be no fall in gold at all; thus showing that rise and fall is not in gold in this case, any more than it is monthly, semi-monthly, decennially, or semi-decennially, in London, but in the value of the abstract monetary units, which rising in number as they are exchanged for commodities, through rise in the volume of bank loans, and falling in number with the fall in the volume of bank loans, carry the bullion of the gold unit with them, whatever the quantity of that bullion may be. The great and decisive objection to mono-metalism is, that it endangers the general steadiness of the metallic unit of either metal, and should it be carried so far, in the character of mono-gold metalism, as to endanger the permanence of mono-silver metalism, general and repeated recoinages of gold would be necessary to maintain the general steadiness of the mono-gold unit, which would then be the only metallic unit in existence, subsidiary coins excepted. In principle there can be no objection, but who shall furnish the elements of computation, by which to determine with even approximate accuracy the quantity of gold to be subtracted from the mono-gold unit? Who shall furnish the elements for computing approximately the quantity of metallic gold commodities which will be melted down and coined? The elements of computation are: first, the total fall

in the number of all monetary units upon the average, as compared with the units of all commodities in commerce upon the average, throughout the world, caused by abandoning silver; second, the probable quantity of gold to be coined out of metallic gold commodities, in consequence of the rise in gold, brought about by the rise in purchasing power of every monetary unit of the world. Such a recoinage and such a computation would not be likely to take place, and a fall in values and a great discouragement to production and commerce would result. Whether the world has progressed on the whole through the successive rises of prices from time to time, although followed by a fall, especially such a rise as occurred between 1797 and 1816 in England and between 1861 and 1873 in the United States, may be left here as a debatable question which ought if at all to be discussed elsewhere, but one thing is certain: it is high time of day to have some science upon the subject of what is called rise and fall in gold, speculation, panics, manias, commercial prosperity and adversity, and other names innumerable beside, enough certainly to show that the whole science of the subject, both in fact and in terms, is chaos itself. Gold has no mercantile or commodity value as money: in a limited sense it is a commodity in bullion exchange, as much so as platinum or copper, but its actual value in silver is on the average maintained by the demand for commodities of gold and silver material. This demand is supplied, not by the buyers of gold bullion, but by the sellers of the commodities made of gold or silver. The values of those commodities are largely increased by labor, and the joint agreement and legislation of all the countries in the world cannot fix those values, and hence they cannot fix the values of the two commodities gold and silver in exchange for each other with absolutely unvarying certainty, or more accurately they cannot fix them at all. There must be more or less variation, but with universal bi-metalism, it would reduce itself to a minimum, and even if it did not, the inconveniences arising from such a variation must be vastly less than

the variations in the value of the abstract monetary unit throughout the world. Mono-gold metalism, not content (if it really knew the fact) with local variations in the value of gold as we witness them in England and the United States, making gold in reality the most variable thing in the world through variations in bank loans, proposes to add to the local variations, variations which, while they extend throughout the world, have no principle of compensation through reaction, like the local variations. Universal bi-metalism is the objective point through which to prevent the general variations, and a metallic banking reserve, in which not quantity of metal merely but quantity kept in due proportion to loans, is regarded, is the objective point to be sought, to bring local variations to a minimum.

To establish bi-metalism in place of mono-metalism, and a total of metallic banking reserve varying in ratio with the total of bank loans in such a manner that all variations from average shall be limited to periods less than a year, may be impracticable, but one thing is certain, that their importance will never be clearly perceived until it has first been clearly perceived and taught by writers upon money, that neither gold nor silver possesses any mercantile or commodity value in its character of money, and therefore its value is substantially of the same kind with that of all other money, whatever form it may assume, whether paper, credit, or any other. The decisive and unanswerable objection to gold mono-metalism, generally or extensively introduced, is, that the resulting rise is not a rise in gold, as all writers, Professor Jevons included, suppose, but a rise in value (purchasing power) all over the world of the abstract monetary unit, without regard to the form in which it may appear. The forms in which it appears are six in number: gold, silver, tokens, government paper money, bank paper money, and bank "credit" money. Take away all silver money or a large portion of it, and in order to maintain the average purchasing power of the abstract monetary unit, and prevent it from rising so much as to discourage and check general production and

commerce, it will be essential to increase the amount or number of units appearing in forms other than that of gold, or the units appearing in the form of gold, or both. The forms other than gold and silver are comparatively transient, and were they otherwise, there is no possibility of limiting the increase by any fixed rule: the changes therefore, if made, should be made in gold by recoinage. Gold will undoubtedly rise, if it be assumed that it can rise at all, just as much without as with recoinage, and therefore if it had value or purchasing power of a mercantile or commodity character, no recoinage would be necessary, because a commodity, when it rises in value, buys other commodities in proportion. Recoinage will be necessary because the metal gold will not rise at all in mercantile value, and because it is only one medium among others in which the abstract monetary unit appears, and therefore recoinage will become essential.

Recoinage will be demanded, not because gold has risen, which is impossible, but because by the abandonment of silver as a medium of abstract value, the monetary units of the world have permanently fallen in number, and therefore risen in value. Their permanent average number in the form of gold must therefore be increased, so as to make up the loss in total number caused by the total abandonment of silver; and if silver is only partially abandoned, then on the other hand and at the same time, the units of silver must be diminished by recoinage of silver.

One of the greatest difficulties to be encountered at first in propounding such a theory of money as this, is to be understood at all, because the idea of a mercantile rise in commodity gold and fall in commodity silver, or the reverse, is so strongly fixed in the human understanding. I have therefore endeavored to make my meaning as clear as possible even at the expense of some repetition. If silver shall be entirely abandoned, all the gold in the world in the shape of coin is capable of furnishing as many localized monetary units as all the gold and all the silver in the character of money and

used as money could or can do, and may be said therefore to be worth as much for that purpose. The objections, all stated, to such an abandonment of silver, are, the difficulty or impossibility of a recoinage of gold with less, and silver with more metal in proper proportions, if the introduction of gold mono-metalism shall stop where it is now and progress no farther, or recoining with less gold only, should silver be abandoned entirely; the impossibility of estimating by any certain rule the quantity of gold which would be carried from metallic gold commodities into gold money, should gold mono-metalism progress still farther, and the danger thereby incurred of increasing the total number of gold units under general recoinage so much as to incur, instead of a rise in the purchasing power of the abstract monetary unit and a consequent fall of prices, the opposite danger of a fall in that purchasing power and a rise in prices. To these add that aid to steadiness in the ratio of total metallic product to total metallic mass of two metals instead of one, now existing, which will be lost more or less through the partial, as it will be entirely by the total, abandonment of silver. If gold and silver were in general use as money through universal bi-metalism, an excess or defect of production of either metal would be compensated more or less through the other, thereby maintaining the purchasing power of the abstract unit more steadily everywhere, by keeping the whole number of units more in harmony of proportion with the units of commodities in general commerce: this aid to steadiness is lost through mono-metalism. The variations from the ratio of $15\frac{1}{2}$ and 1, between the two metallic commodities gold and silver in their bullion exchange, as more or less gold or more or less silver comes from the mines to the bullion market, would not under general bi-metalism be of the slightest practical importance, because an excess of silver would immediately cause a coinage and remittance, or remittance without coinage, of silver, while defect of silver would have the opposite tendency, and so of gold: one would be as likely to be in excess and one in defect as the other. It

is impossible to get rid of the superfluous weight of silver, without endangering the steadiness of the abstract unit: its superfluous weight must therefore be borne with, and the inconvenience removed as far as possible in such highly commercial countries as England and the United States, by deposits in government or other treasuries. In such countries as England and the United States, governments ought to receive treasure in the shape of metallic money, whether it be gold or silver, and issue transferable certificates, pound for pound and dollar for dollar. After the adoption of general bi-metalism, silver and even gold in bullion might be received, always payable on demand in bullion of the same kind. It might also be well worthy of experiment, in order to compensate for the movement of either kind of bullion above or below the bullion or commodity par of 15½ and 1, to make all such certificates payable in gold or silver at the option of the holder, up to the limit of the ability of the government to satisfy the option when declared, and then to give the option to the government, subject always to the option of the holder as far as it might be possible to comply with it. Should the exchange be against gold, holders would call for silver if they called at all, and should it be against silver, for gold; but inasmuch as holders would not be likely to call to any great extent except for the purpose of coinage or shipment, and because the commodity or bullion exchange has, as I have shown, no reference to the fall in value of the abstract monetary unit, which usually results both in England and the United States from unduly expanded production and a resulting unduly expanded circulation, the right to call for silver, should gold fall in commodity exchange, and for gold, should silver fall within the limits mentioned, would probably, taking the two countries together, go far towards rectifying all adverse commodity exchange for each metal.

The idea that gold and silver have any direct commodity value except in the limited sense of bullion exchange must be entirely removed, if it be possible, from the minds of scientists. Their value is of a much higher

order than mercantile. It is conventional undoubtedly, for if it were not, how could the German Empire determine to abandon silver and adopt gold? It is conventional value, resulting from the acts of men in their corporate capacity. Governments can make no changes unless in accordance with the will of the people: they may declare what shall be a legal tender after a debt has accrued, but they cannot make people buy and sell with any kind of money unless they choose to adopt it, as the people of California maintained a metallic currency, legal-tender paper money to the contrary notwithstanding. In reference to money, governments may be said to represent only the will of the people who use it, not of those who refuse to use it and are able to dispense with it. The value of metallic money being conventional, or in other words abstract like that of all other money, the value of plate and other metallic commodities, so far as concerns the material of which they are composed, is largely of the same character. Diamonds and precious stones of all kinds have a mercantile or commodity value, which does not result from the corporate, but the individual wants and actions of men: no general agreement could be made and carried into effect to dispense with them, but silver can be dispensed with, and should it be, in consequence of the acts of the whole commercial world, silver commodities to an amount perhaps equaling fifteen hundred millions of dollars would be reduced in value to say three hundred millions, and the difference thus arising, conventionally carried to gold commodities. What ought to be the grand object of a metallic currency, and really would be if the commodity theory of money did not prevent scientists from perceiving it, is thus lost. When that theory gives way, if it ever does so, bi-metalism and Adam Smith's law of a regulated reserve will naturally follow. I have made use of the term units on all occasions, whether referring to money or commodities, in order to keep continually before the reader the fact that even barter can take place only between standard portions of commodities, by measure or weight. There can be no exchange of a

commodity in an indefinite sense for another commodity. The principle is the same in the exchange of money for commodities, except that the units of commodities have a definite and special relation to human wants, while the units of money are the medium which stands as their generalized equivalent in abstract terms, the absolute measure of their particular values, and when paid, the particular equivalent, conventionally received for them.

The science of political economy, so called, has been examined in a subjective sense by very able thinkers and writers, and in that sense may be said to be established. It has comparatively little practical value however, — at least it falls far short of the practical value it ought to have, — because the very great variety of condition among men, individually and nationally, allows, historical economy excepted, only very abstract deductions from very abstract hypotheses. The really practical part of the science, which relates to the production and exchange of commodities by the agency of money, has been lost for want of a scientific theory of value, and therefore it has become essential to demonstrate the true nature of value in exchange, first in the form of barter, and secondly the particular changes resulting from leaving the comparatively undeveloped state of barter, up through the development of money in all its forms, especially as modified by banking. A great degree of practical certainty is attainable here, and here only, while in the other quarter, abstract certainty, which is not of a practical kind, is alone attainable. I have called money value abstract value, and such it certainly is: it is abstract because it is conventional, and it is conventional because nations and even provinces or states (witness California) can by convention temporarily abandon gold and silver and use other forms of money, or adopt them again; and they may abandon the use of silver as Germany has done, or they may adopt it at pleasure. That such is the fact must be as certain as that 2 and 2 are 4, to the understanding of every one who reads this essay. The logical, it might perhaps be said, the common-sense deduction

from this general fact is, that all monetary value is the abstract unit 1 localized and limited in or by some form or other under any and all circumstances, and in metallic money through the medium of the whole mass of metal used for that purpose. That the material (metal or anything else) used for that purpose ought to possess value independently of monetary use, may be conceded, because the non-possession of such value would imply an utter want of the means of limiting abstract value, were a community desirous of limiting it. Paper and credit money would answer well enough in all or most mercantile exchanges, as claimed in substance by those writers who insist upon the possibility of still greater economy of gold, were it not for the utter impossibility of limiting either its total volume or its circulation. Nothing but the false commodity theory of money induces some writers to urge the carrying of this possibility into accomplished fact. The theory of money which I maintain at once furnishes the corollary, that because all monetary value is conventional, that is to say, abstract value, given to the abstract unit 1, under the practical designation of pounds, dollars, etc., metallic money is the most perfect form of abstract value conceivable; it cannot be over-produced, because the total annual production even of gold cannot be greater than one and one half per cent. of its mass, while universal commerce probably advances upon the average by a greater ratio, and if bi-metalism were generally introduced, the percentage of metallic production as a whole would be still less. The attainable steadiness of metallic money is a thing about which writers upon money have said little, because they have thought little, nor can they think to any advantage until the commodity theory is abandoned, and the sound logical deductions from the proposition, The value of all money is conventional, are made and accepted. It is hard to get rid of the fallacy that because gold and silver to the amount of some thousands of millions, in the shape of metallic commodities, possess mercantile value and these metals themselves have [illegible] exchange

of their bullion, therefore gold and silver as money are also commodities possessing mercantile value. The fact that a very large part (perhaps three fourths) of the value possessed by metallic commodities in the shape of plate, etc., is the result of conventional or abstract value given to gold and silver by the very fact that they are money, is practically ignored. This fallacy once overcome mentally, it will be more readily perceived (in accordance with actual fact) that the fact when gold is said to have risen, in London for instance, is not a rise in gold as merchandise, but a rise in the purchasing power of the abstract monetary unit, always localized in, but duly limited by the gold of the metallic sovereign, only when Adam Smith's law of a reserve proportional to all bank loans (as I have fully explained) is universally maintained. The absolute necessity of metallic money as a limitation of both "volume" and circulation, to all money, can be demonstrated only through this theory.

In a more or less primitive state some commodities may be more readily bartered than others, and so much more readily, that the barter exchange approaches towards that of money; but a universal equivalent like gold and silver, which is not actually destroyed or annihilated as to its commodity character when used in the shape of metallic commodities, must necessarily, although still retaining all the form of a commodity, have exchange value as money, only in a conventional or abstract sense, as is unquestionably the case with paper and credit money. The results of the exchanges of commodities, labor and commodities, and capital and commodities, whether the work is actually done by paying out gold, paper, or credit, are alone to be regarded, and not the gold, paper, or credit itself, if we wish to arrive at the true science of the subject.

Because monetary value is conventional and abstract, it cannot exist absolutely in any particular quantity of metallic or other commodity, no matter how valuable it might be, even if it were not money. A particular weight of gold has value incidentally and not absolutely.

Conventional and abstract value is also mathematical value, or rather value mathematically stated, and in case of gold, it is mathematically stated in units of weight, with as much precision as gold can be weighed. The fundamental principle of metallic money therefore, under free coinage of either gold or silver, is approximate mathematical precision of weight, not for the purpose or for the sake of the metal, but in order to prevent as far as possible all variation in the number of standard units, after weight has once been fixed. A loss of silver or gold in bullion value is not a loss of purchasing power, but a loss in the commodity exchange value only, and all the profit possible, resulting from a payment in the depreciated metal, comes through this exchange.

Upon this theory of money, in order to get the full benefit of mathematical precision of weight throughout the world, bi-metalism is essential, because the value of gold and silver being conventional, recoinage is in principle essential, if mono-metalism is extended much farther; but should recoinage be attempted, there is no possibility of ascertaining how much additional commerce gold will have gained through the extension of mono-gold metalism, and still less how much gold will be carried to the mints from the melting of metallic gold commodities, in consequence of the rise of gold in mono-gold countries, resulting from the rise in purchasing power of the abstract monetary unit in those countries. A permanent rise in the value of the abstract monetary unit in mono-gold and a permanent fall in mono-silver countries, through permanent changes in the whole volume of the units, must result, and absolute precision of weight thus lost, as steadiness of circulation in the unit has been long since lost through banking, to be restored only by considering all banks in any country as virtually one, and maintaining a minimum ratio of reserve.

The reason for maintaining this minimum ratio and the reason for sustaining bi-metalism in contradistinction to mono-metalism, in view of the accumulations of both metals and their distribution and the present state of metallic production, are one and the same, viz., that

the monetary unit, whatever form it may take, is necessarily abstract in its valuing function and in its character of a conventional equivalent in all purchases and sales, with the further reason in favor of bi-metalism, that although the value of gold and silver necessarily rises and falls locally as the abstract unit rises and falls in value throughout the world, in the millions of exchanges which are taking place, nevertheless the commodity or bullion exchange value of the two metals is quite steady. If the doctrine of a very large number of the writers upon money is practically carried out as to economy of gold, it is really a matter of grave doubt whether a paper currency, duly limited as to quantity with a minimum ratio maintained in all banks, would not vary less than gold now varies in London. If the issue were carefully guarded upon sound principles and the reserve kept up, the variation would probably be less than that of gold with a variable reserve as at present. The reason why gold and silver can, and under favorable conditions do, furnish the steadiest prices possible, is their vast accumulation and distribution throughout the world, and the small amount produced in any one year as compared with that accumulation. It is a great error to suppose that the variations in gold have been progressively so great as claimed by many: the variation is not so much in gold as in the quantities of paper money and bank loans, although national habits change slowly, especially in countries using large amounts of metallic money. What a loss of purchasing power the silver unit would be subjected to in a country like China, if loans to producers in China could suddenly rise to the same proportion relatively to all the silver in China, as they stand in France relatively to all the silver and gold and bank notes in France; and what a loss of it, if banking were all at once extensively introduced in France! The true reasons why gold and silver are essential as money of the commercial world are not merely to avoid general variations, but also local variations as far as possible. It would be impossible to make paper money, which would cost

but little even if internationally issued, maintain itself at a uniform volume. Adam Smith, with his remarkable sagacity, perceived the logical necessity for some basis of value, and placed it in labor. This was a mistake, but he never undertook to establish his basis by argument. The evidence of his own eyes convinced him that the work accomplished by gold and silver was precisely like that accomplished by bank notes, and therefore if steadiness were really a desirable thing, it could only be maintained by keeping the whole volume of notes very nearly the same with that of the metallic money they displaced. The same principle applies to all banks, whether under mono-metalism or bi-metalism. If all banks were merely banks of deposit, all the loans would be made by depositors and none by the banks. The payments and loans through checks would be the outward current from deposit, and deposits made by depositors would be the return current into deposit. These currents would average with each other within short periods, if the actual exchanges of commodities, or in other words ordinary commerce between producing consumers, kept even pace within short periods with the production of all commodities, all producers thus producing in harmony by an average made within short periods. Prices would then be steady, and the amount of money on deposit would within the same short periods be in the same proportion to loans. Now if deposit banking should change to deposit-loan banking, the principle of a reserve regulated according to Adam Smith's law demands that loans be made, always subject as nearly as possible to the same rule of variation within short periods. The reserve would not be as large, because bankers would make a large number of loans of their own, while depositors would make the same number they did before, and therefore the reserve would be smaller in proportion to all loans than before. It ought however, although smaller, to maintain its minimum within short periods, for the same reason that it naturally maintained its own average before, viz., to keep production and consumption as near together as

possible, and thus maintain steady prices and avoid the losses which result from excessive over-production through loans. The words Production and Consumption do not perhaps, without a careful definition, convey their true and proper meaning, in economical science, to readers at large. A producer is one who produces or brings into existence a new commodity or new capital: the commodity is in demand by those who have the cash to give for it, and this cash may or may not have been borrowed. On the other hand, the producer may or may not have borrowed the cash which he used in producing the new commodity or capital. If neither the producer nor the consumer borrowed, production and consumption would be near together, and if producers and consumers never borrowed at all, there never could be a commercial or banking crisis, because that comes from debt, and inability to sell the products of labor in order to pay debt. To regulate banking reserve in England and the United States is therefore to bring producers and consumers nearer together; to diminish, as well as to steady, cost of production. This is the true reason why gold and silver always will be, and always ought to be, not only the money of the commercial world, but the money of every part of the world, either altogether or very nearly so as in France, or in definite, not indefinite proportion everywhere to other forms of money, or, in one word, to loans. The idea of a commodity or mercantile value in gold and silver as money can never be eradicated from the minds of money-holders at large, and it might be attended with great loss of steadiness, if it could be, and were. Loss of that idea might induce holders (in China for instance) to part with their money more readily, and thus occasion disturbance of values. But in order to demonstrate to scientists who write about money, and who propose still further economy of gold without reference to Smith's law, the mistake they make in asserting that banks deal in what they call credit when to save labor gold is left in the common reserve, and in gold as a commodity when a

borrower takes out gold to pay the wages of labor or to ship abroad to buy the products of labor, and that a mono-metallic "standard" is better than a bi-metallic, it has become necessary to prove that a sovereign or half eagle is no more a commodity or article of merchandise, than a bank note for either of those sums, because the value of either is conventional, and therefore abstract. If the sovereign, the dollar, the half eagle, and all other forms of gold money were abandoned, then, undoubtedly, conventional value in that shape would cease, and gold would appear only in the character of a commodity. The value of a bank note payable in gold sovereigns and dollars, although abstract, is not precisely of the same character. It is valuable as a debt, and at the same time as money; but in the character of a debt, what does it call for? It calls for money in the shape of gold, and not for a commodity: it calls for that which performs the same function it performs itself, but in a larger field. Demonetization of gold carried to the most extreme point might reduce the gold to twenty per cent. of its former value, but it would take nothing from the value of the note, because the maker cannot pay in gold after gold is demonetized: he must pay in that medium which takes the place of the gold, upon every principle of law and equity. He never can relieve himself from the performance of his undertaking, because gold is demonetized, nor can he tender gold in payment, after it has been demonetized, upon the ground that demonetization cannot affect his liability, any more than a legislative act could change the contract of one who had promised to deliver wheat. If the gold really possessed as money a mercantile value, he could still lawfully and justly tender gold. He cannot do this, for the reason that he has not undertaken to deliver a commodity, but to pay money. The money he promised to pay, having ceased to be money at a period intervening his promise and a demand by the holder, he cannot discharge it without paying that which is lawful money at the date of his creditor's demand. Could an undertaking to pay

money, made by a resident of Prussia in Prussia ten years ago, be discharged to-day by tendering silver to the holder in England? Certainly not, not only because it is not money in England, but for the further reason that it would subject the holder to great loss. All purchasing power is conventional and therefore abstract, whether it appears under the form of metal, bank notes, or "credit" entries: it is apparently abstract in the character of the bank note and the credit entry, especially if inconvertible, but not apparently so in the gold. Rigorous analysis shows however that it is so, and as soon as a majority of writers upon money have made the analysis for themselves and adopt the theory, they will adopt Adam Smith's law of bank reserve, and conclude that this law and bi-metalism are essential, in order to obtain that steadiness of purchasing power in the abstract unit, without which the chief objects to be gained by the costly metals, gold and silver, are lost.

Most writers upon money, misled by the mercantile theory of a commodity value in gold and silver, when these metals actually pass from the hand of the buyer to the hand of the seller, and a credit value where these metals do not pass, call the exchange effected by what they call bank credit, as well as international trade for the most part, barter of merchandise, because comparatively small amounts of metal pass from one country to another, in either case. Nothing can be more absurd from the standpoint of my theory of money. Looking at actual results in order to aid in finding causes and establishing a science of money which does not contradict itself, my theory leads to the conclusion that all trade is barter, whether gold and silver are used or not, but it is a kind of barter very different from their kind: it is not direct barter, as they maintain, but indirect barter, because, eliminating the conventional and auxiliary agency of money, commodities stand exchanged and pass from producers and sellers to buyers and consumers. Money was invented in order to substitute indirect for direct barter by the intervention of an abstract and common

"denominator" of value, which is at the same time value itself: taking them at their word and presuming them to mean exactly what they say, the invention is a failure, and we have direct barter of a more inconvenient kind through the invention, than we could have had without the invention.

Monetary science is really the only practical part of political economy, because although there must undoubtedly always be upward and downward movements in trade, it is through the agency of money alone, that they are carried to the point of a banking crisis. Monetary science therefore includes a theory of the particular mode in which the agency of money is employed to produce such crises.

SUMMARY.

In examining the particular question of divergence in point of abstract or general value on the part of the silver and gold units through mono-metalism, I have assumed the divergence to be a total of fifteen per cent., should mono-metalism be extended no farther, and that one half of the divergence (seven and one half per cent.) will be a fall in the abstract unit of silver, and the remaining half a rise in the abstract unit of gold. But whether the divergence will be actually divided equally between the two metals, in point of fact, is a matter of uncertainty: the probability is that it will not, because to make such a division, it would be necessary that the commerce into which the seven and one half per cent. excess of silver will go, through the agency of buyers, should equal the commerce from which it is taken through mono-metalism. The internal commerce of a country like China is much greater in proportion to its external commerce, than that of the countries of Western Europe and the United States. The rise of prices in silver may be greater than I have assumed, and they may possibly be less, but one thing is certain, whatever it may be, it will be a rise caused by Western buyers, and it will reverse the present rates of exchange, to the great disturbance of trade. If the value of gold and

silver as money were entirely of a commodity or mercantile kind in a literal sense, as stated by writers upon money, or if it were exclusively abstract and generalized, like that of paper money, this disturbance, as I have clearly shown, would occur, if at all, in a slight degree only. Because neither of those propositions is true, and because gold and silver have no mercantile or commodity but only abstract or generalized value in monetary exchange, while they have only a mercantile or commodity value in bullion exchange, which two exchanges are inverse to each other, this disturbance in monetary exchange and consequent disturbance of trade must result.

The sum of the matter in relation to mono-metalism and bi-metalism is, that the questions whether either ought to be generally adopted to the exclusion of the other by all nations, one of the metals gold or silver being universally monetized and the other universally demonetized, unless perhaps for subsidiary purposes, which is exclusive mono-gold or mono-silver metalism; whether both metals ought to be used everywhere together, which is exclusive bi-metalism; or whether each nation ought to confine itself to the use of one only of the two metals, some using silver and some gold, which is exclusive mono-metalism; or whether some ought, if they choose, to adhere to or to adopt at pleasure mono-metalism in the use of either metal, or bi-metalism in the use of both metals, as we actually find to be the case to-day, are eminently practical questions, upon the theory of money maintained in this essay. A direct categorical answer cannot be given to either of these questions, because a large number, not only of complex facts, but of possibilities and probabilities, must be examined, and before they can be examined intelligently so as to have a practical result, there must be a general agreement among writers, or at least a large majority of them, as to what monetary science really is. There certainly can be no true science until the law of values of all kinds is understood and adopted. When writers talk of a commodity or mercantile value in gold and silver out-

side of the limits of the bullion market, it is certain that they do not mean exactly what they say, because the very fact that one nation can abandon the use of either metal to the exclusion of the other, as Germany is now doing, and the fact that although the silver unit has fallen fifteen per cent. and more in gold, and the gold unit has risen to the same extent in the latter, neither of them has as yet changed materially its purchasing power, as is proved by the present state of the exchanges, furnish a practical demonstration, before their eyes, that neither gold nor silver can possibly have a commodity or mercantile value, in buying and selling. The real difficulty therefore lies in a total misperception, or non-perception, of the true laws of monetary value. When they (the writers upon money) have carefully examined and come to a general agreement upon this question, What is monetary value? they can give intelligent answers to the foregoing questions in respect to mono-metalism and bi-metalism. I am quite certain that they will find but two forms of value: commodity or barter, which may also be called mercantile value, and abstract or generalized-commodity, which is monetary value. Under this theory of monetary value, mono-metalism in the shape of gold might in the abstract be desirable, especially for such countries as England and her colonies, and the United States, in order to limit the monetary unit by the smallest possible bulk and the least possible weight of metal. But in giving a practical answer to the question, whether gold mono-metalism ought to be introduced exclusively or even to the extent now prevailing, not only all the advantage and convenience on the one hand but all the disadvantage and inconvenience on the other, must be considered. If there could be a general recoinage of gold (inasmuch as upon this theory of money there is no rise or fall in gold or silver except in consequence of a rise or fall of purchasing power in the abstract monetary unit), so as to prevent a fall of prices, and mono-silver countries could, and would without difficulty, give up silver, and further, if the gold of metallic gold commodities could either be kept in its present

shape and use, or the quantity to be taken out of that shape and use, to be employed as money, could be fairly estimated for the purpose of determining the weights of the new gold coins, mono-gold metalism would be in many respects desirable. There would still however remain, under this theory of money, the strong objection that because the most important function of all money is steadiness of abstract or monetary value in the purchasing power of the unit, it is more likely to be maintained by two metals than by one. This, it must be confessed, might be maintained by one metal to a very great degree, but it can certainly be maintained at a higher degree with two metals than with one. But as recoinage would be very difficult and perhaps impossible under all circumstances, my "practical" answer, from the standpoint of my theory, to all these questions is, that inasmuch as gold and silver will probably continue to be, both of them, the metallic money of the commercial world, it is essential to keep the two metals together in order to keep the value or purchasing power of their abstract units alike everywhere, and maintain the monetary exchanges of the world; and that the advantages of universal bi-metalism are greater, and its disadvantages less by far, than those of universal mono-metalism or partial mono-metalism and partial bi-metalism, either metal or both metals being used indifferently as bank reserve, and kept in due proportion to all bank loans, whether they give rise to clearings or not. Volume upon volume has been written upon the relations of labor and capital, and what are called by some writers the rights of labor. What "practical" meaning is there in the latter expression, and what practical benefit to either labor or capital has resulted from all this writing? So far as reasoning, aside from mere sentiment, is concerned, what have we but the drawing of abstract conclusions from abstract hypotheses? That every man has a right to labor is true precisely in the sense that every man has a right to accumulate capital: *practically* that is all that can be said as to the *rights* of labor and capital. To this plain, practical proposition, add this

other equally practical proposition, that the actual accumulation of capital by those who are called capitalists is indispensable in order to maintain civilization, and under ordinary conditions labor receives all the compensation capital can pay, and still maintain the necessary accumulation. The truth of this proposition is demonstrated by the fact that the actual accumulation is a very small percentage, after capital and labor are supported, and waste and deterioration made good. The remainder is no more than sufficient to support the additional labor which is demanded. To make any further effective calls upon capital is to bankrupt it, as is now being done in England.

The real mischief, which is partially open to remedy, lies in a very different quarter from that referred to in all this sentimental writing: it lies in an improper distribution of labor and capital. Labor and capital have no cause of quarrel, but of sympathy. The wrong lies, not in accumulations of capital, because such accumulations are indispensable to labor itself; not in the wages of labor, because capital pays as high wages as it can afford; but it lies in the extra hazard to producers incurred through an excess of loans. Not that too much money is loaned upon the average by any means, but there is too long a period in making up the average, so long as to bankrupt a great many producers and discharge from their employment for a considerable time many laborers, both skilled and unskilled, in addition to the falling off in the profits of those producers who escape bankruptcy, and the wages of those laborers who still retain their employment. The extra risk of bankruptcy or loss of profits thus thrown upon the capital directly engaged in the business of production, and the risk either of entire loss of or great falling off in wages thus thrown upon labor, is the real grievance of both, more especially in the United States. Money having only conventional value, when loans are everywhere at the highest volume they can attain, what is really loaned by those who loan money? Commodities undoubtedly, and commodities which those who borrow will consume

themselves, or cause to be consumed by others. Convertibility is not of itself a guaranty against excessive loans: it must be carried to the point of limitation, agreeably to Adam Smith's rule, for the protection not only of producing capitalists and laborers, but the lenders themselves. Whatever form a loan may take, it is an indirect draft upon commodities to be consumed through the borrowers, to the debit of the commodities they will produce in the place of those consumed. An overstock of the latter, with rising prices in consequence of not keeping loans steady by a duly proportioned metallic reserve, is the immediate cause of a banking crisis. The immediate cause of loss and bankruptcy of producers, discharge of laborers, and falling off in wages, is the falling off of loans, and consequently of prices.

But because a loan is an indirect draft upon commodities to be consumed through the borrowers, to the debit of commodities to be produced, whatever form the loan may take, whether that of a bank credit, bank notes, or gold, it is idle to talk of any radical distinction between what is called credit and what is called money: it is all credit, if that be the proper word; it is all money, if that be the proper word. The real object to be aimed at is steadiness of loans, so as to insure steadiness in production, and thereby steadiness in the monetary unit, in whatever form it may appear. To maintain that steadiness, limitation of loans, and not mere convertibility of bank liabilities, is essential. Convertibility is necessary, undoubtedly, but it must be carried to the point of limitation, because metallic money is now made just as variable as paper money, through the agency of bank loans, and without limitation, the chief object of convertibility is lost to capital as well as labor. Bimetalism is essential for the purposes of general steadiness, but in order to understand fully why it is so, the whole law of monetary values must be carefully studied, and it can be studied to better advantage in the phenomena of banking, than elsewhere. Labor has no just cause of complaint against accumulated capital not accumulated to excess through unlimited loans, because

such accumulation is absolutely indispensable to labor itself. It is the enormous accumulations which occasionally result from production and trade turned to a lottery through loans, which is the grievance not of labor directly, but of capital, and through capital, of labor itself. So far as it stands in the way of the laborer in his attempt to become a capitalist himself, it is indirectly a grievance undoubtedly. Under the mercantile or commodity theory of money, to attempt to regulate bank loans is a direct interference with trade: under my theory, it is a direct interference with banking, for the purpose only of maintaining the steadiness of the monetary unit. That maintained, production and trade will take care of themselves. The right of government to intervene for such a purpose is, upon my theory of money, of the same kind with that of coinage and regulation of bank-note issues. Under free coinage, governments are bound to coin all the metal offered; under the power of regulating bank-note issues, governments may provide not only proper collateral security for the safety of note holders, but for convertibility into commercial world's money, and steadiness of purchasing power, through proper metallic reserves. Upon the same general principle, they may interfere with bank reserve, because although banking is a trade, it is trading through the agency of money. If bank loans regulate themselves in such a way as not to interfere with the steadiness of the monetary unit, then governments have no right to intervene, but if they do not (and upon my theory they do not), governments ought to intervene, not for the purpose of regulating trade, but to prevent the losses of trade which result through that loss of steadiness which causes the fall in gold, as well in the United States as in Great Britain, under their banking systems. Governments intervene to coin money and regulate bank-note issues, because private individuals cannot do these things as well, and in fact cannot do them at all, in any effective sense. Precisely so with banking: coinage, regulation of bank-note issues and bank loans, or in one word regulation of all bank loans (for banks sometimes

lend by issuing notes, and sometimes without issuing notes or paying metal), belong properly to governments, solely for the purpose of maintaining the steadiness of the monetary unit. If it would always maintain its own steadiness, governments ought not to coin, but leave coinage to private individuals, and for the same reason they ought not to attempt to regulate bank-note issues or bank loans, but leave the regulation to take care of itself, upon that hypothesis. The same test ought to decide whether governments ought to regulate, or attempt to regulate, the rate of interest on loans. The right to intervene in banking is not founded on the right to regulate interest, but to maintain the steadiness of the monetary unit: that steadiness maintained as far as it can be, trade ought to be left to itself. But interest is merely a fixed share of profits agreed upon in advance, and purely a producing and trading risk. Hence to attempt to regulate interest is to attempt to regulate production and trade, to the damage of all parties, but especially producers and laborers. Bi-metalism, banking regulated through bank reserve, and non-interference with rates of interest, are the best practical remedies to redress all the supposed grievances, either of labor or of capital.

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